AGRICULTURE DEPARTMENT TRINIDAD AND TOBAGO

ANNUAL REPORT FOR 1955

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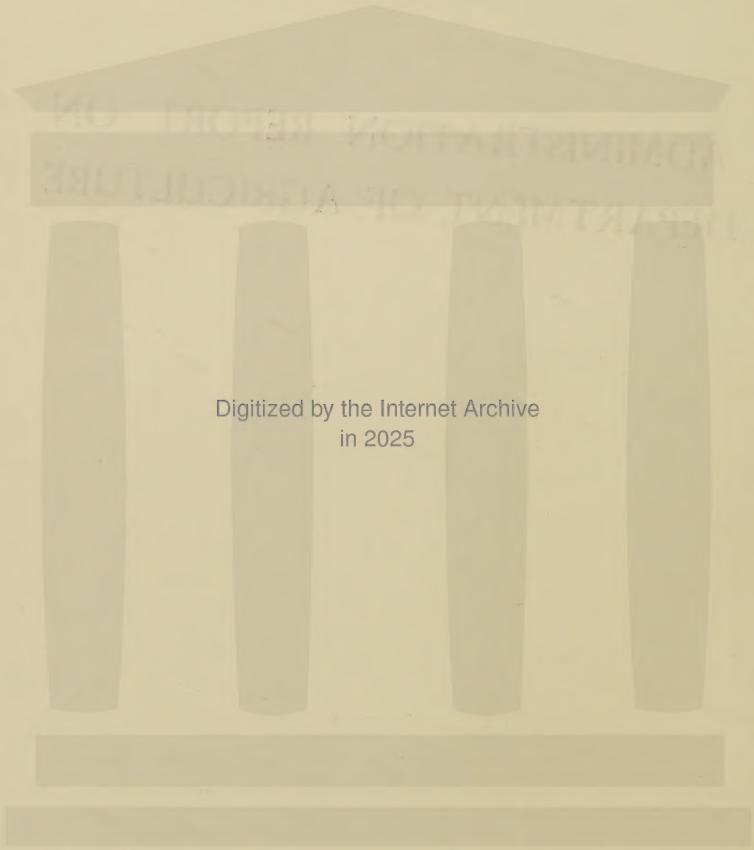

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DEPARTMENT OF AGRICULTURE, TRINIDAD AND TOBAGO
SCIENTIFIC AND TECHNICAL STAFF

(*As at 31st May*, 1956)

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Deputy Director (Research) ...	B. G. Montserin, Ph.D., M.SC., B.S.A.
Deputy Director (Crop Husbandry)	E. S. Capstick, B.A., A.I.C.T.A.
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Rice	E. G. Benson, B.SC., A.I.C.T.A., Dip. Agric.
Cacao	L. L. de Verteuil, D.I.C.T.A., F.R.H.S.
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Sugar	R. Barrie Smith, B.SC., D.T.A., Dip. Agric.
Fruit Crops	Vacant.
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Plant Pathologist	J. A. Spence, B.SC., D.T.A., Dip. Agric. SC.
Soil Chemist	G. C. Witt, B.SC., A.R.C.S.
Agricultural Engineer	L. G. Campbell, B.SC., D.I.C.T.A.
Senior Agricultural Officer ...	St. G. C. Cooper, A.I.C.T.A., D.I.C.T.A.
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	P. O. M. Hosten
	K. D. Guyadeen, A.I.C.T.A., D.I.C.T.A.
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	E. E. Seignoret, B.SC., B.S.
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	D. M. Farrell
	R. Moosai-Maharaj, D.I.C.T.A.
	V. C. R. Henry, B.S.A., D.I.C.T.A.
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Soil Survey Officers	C. B. Brown, B.SC. (Agric.).
	V. I. Mulloon, D.I.C.T.A.
Irrigation Assistants	2 Vacant.
Veterinary Officers	Holman E. Williams, D.V.M., M.SC.
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	S. V. A. Blizzard, B.SC., M.R.C.V.S.
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	A. P. Louisy, D.V.M.

Senior Agricultural Assistants	... A. E. Joseph
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	R. E. Greaves, Dip. Agric.
	F. Raphael (Seconded Cocoa Board)
	P. J. Dominique, M.B.E.
	W. O. Bishop, D.I.C.T.A.
	E. R. Cumberbatch, A.I.C.T.A., D.I.C.T.A
	C. A. Ford
	I. E. Telfer, D.I.C.T.A.
	P. O. M. Jones, Dip. Agric.
	S. Bharath, B.Sc. (Hort.)
	3 Vacant.
Agricultural Assistants ...	... D. MacFarlane
	W. A. McMillan
	G. Khan, Dip. Agric.
	S. Redman, D.I.C.T.A.
	E. L. Iton, B.Sc. (Agric.)
	H. Mohammed
	G. Harnanansingh
	P. C. Scantlebury (Seconded Cocoa Board)
	G. F. Bally
	E. M. Jones, D.I.C.T.A.
	A. Rahman
	H. McK. Jeffers, D.I.C.T.A.
	C. C. Haqq
	J. O. Slocombe, D.I.C.T.A.
	C. C. Applewhite, D.I.C.T.A.
	E. P. Alleyne, D.I.C.T.A.
	T. W. Carr, D.I.C.T.A. (Seconded Cocoa Board)
	6 Vacant
Manager, Tobago Farm ...	... L. W. Preudhomme
Fishery Officer	... W. A. King-Webster, B.A.
Assistant Fishery Officer ...	... Vacant.
Fish Culturist	... J. S. Kenny
Skipper	... F. O. Assam
Fishery Assistants ...	... 3 (1 Vacant)
Chief Fruit Inspector ...	... L. P. Lange
Scientific Assistants Grade I	... J. Clemanty
Grade II	... 3
Grade III	... 3

Zoologist (Part-time) ...	... A. M. Greenhall, B.A., M.S.
Senior Anti-Rabies Inspectors	... E. J. Aché
	L. Crawford
Anti-Rabies Inspectors ...	... 13
In addition there are ...	... 127 Field Assistants

Cocoa Board

Chief Rehabilitation Officer	... E. R. Moll, B.Sc., D.T.A.
Rehabilitation Officers ...	... A. E. Pugh
	C. H. Job, A.I.C.T.A., D.I.C.T.A.
Advisory Engineer ...	... L. S. Henzell
Officer-in-Charge, La Pastora Propagating Station ...	... P. C. Scantlebury
Officer-in-Charge, King's Bay Propagating Station ...	... F. Turpin
Officer-in-Charge, Marper Propagating Station ...	... C. A. Phillips
Officer-in-Charge, La Reunion Estate	Vacant
Chief Cacao Subsidy Inspector, Tobago	E. A. Brunton
Chief Cacao Subsidy Inspector, Trinidad	... E. A. Black
Senior Cacao Subsidy Inspectors	... J. H. Deane
	F. Lezama
	1 Vacant
Experimental Officer ...	... C. A. Samaroo
Supervisor of Estate Propagators	... Vacant
In addition there are ...	... 34 Field Assistants

Marketing Board

Assistant Marketing Officers	... F. A. Rawlings
	L. C. Farrell
Senior Marketing Assistants	... F. A. Bain
	J. Fernandes
	J. B. Gonsales
	A. U. Massiah
In addition there are ...	... 22 Marketing Assistants
	1 Maintenance Mechanic

INTRODUCTION

The rainfall in Trinidad had a normal distribution, but in Tobago, the first half of the year was exceptionally dry, there being no appreciable rainfall until June. Normal weather conditions in Trinidad permitted the expected seasonal growth of home grown food, but on account of the dry spell in Tobago, the volume of bananas, ground provisions, plantains and pulses was less than in the previous year.

Because of the rise in the cost of living index, there were two increases of 4 cents per day to Government daily-paid workers.

Preliminary figures indicate that the value of agricultural exports raw and manufactured was $53,023,422 as compared with $53,240,822 in 1954.

The year 1955 saw the highest total sugar production in the history of the Colony's industry. A total of 192,793 tons was manufactured, which was 20,028 tons over the 1954 production of 172,765 tons, which had been itself a record. Shipments in bulk continued, and amounted to 105,979 tons, an amount of 1,501 tons being shipped to Canada in this manner for the first time.

The 1954-1955 crop of oranges and grapefruit was good. The Co-operative Citrus Growers' Association received fresh fruit from 17th November, 1954 to 21st May, 1955, over one month longer than in the previous year. Because of rains in certain areas of Trinidad during the flowering period, fruit setting was hampered, and the crop of 1955-1956 will be, it is estimated, about one-third less than that of 1954-1955. The total value of all citrus produce exported was $2,953,098 as compared with $2,051,591 in 1954.

The lime industry continues to diminish.

Cacao exported amounted to 16,459,744 lb. valued $11,773,390 as compared with 17,640,784 lb. valued $15,047,820 in 1954. The prospects of the 1956 harvest are promising, though, on the whole, the crop will be a late one. Good progress can be recorded for the rehabilitation of the industry by means of the Cacao Subsidy Scheme.

In coconuts, the spread of Red Ring disease is still alarming and the service of a Nematologist is now being obtained to assist with the investigations.

Early in the year, coffee prices fell from 80-85 cents to 40 cents per lb. The exports of raw coffee were 1,475¼ tons valued at $1,727,264 as compared with 1,774 tons valued at $3,835,294 in 1954.

Bananas continued to be purchased and shipped by the Marketing Board. From 7th November, shipments of Gros Michel bananas to the United States of America ceased, and from that date all acceptable bananas were shipped to the United Kingdom. Exports to the United Kingdom were on a trial basis until September, when the 15-year contract made by the Marketing Board with the Union International Company came into force.

It is gratifying to note that shipments to the United Kingdom increased from 760 bunches in February to 9,735 bunches in December.

Interest in banana production has been aroused by the intensification of extension work, which included field days and demonstration plots. Planting material of the Cavendish varieties was produced locally, and also imported for distribution to farmers.

Experiments are in progress to determine the most effective control for banana Leaf Spot disease. Much attention is being paid to machines for low volume oil base sprays, the pioneer work on which has been done in Guadeloupe. Early indications of progress confirm the results obtained in Guadeloupe and show that oil base low volume sprays are more effective in controlling Leaf Spot disease than high volume water base sprays.

With regard to the production of rice, apart from floods in certain lagoons during July, August and September, with their consequent losses, cultivation was as usual. No great increase or decrease in acreages was noted. Yields were satisfactory. The rationing of rice ended on 31st October. The price of freely available rice from British Guiana was then fixed at 13½ cents per lb. In consequence of this, the price of locally grown rice fell from its usual figure of 18-20 cents to 12 cents per lb. or less.

Investigations by a firm of consulting engineers, commissioned by the F.A.O., into the possibilities of reclaiming swamp lands in Trinidad, primarily for rice, started at the end of 1954 and continues.

A major change was made in the management of the dairy herd at St. Joseph Farm. As from the latter half of the year, animals were gradually turned outdoors both day and night, as against being only out during the night. The purposes of this change were two-fold. Firstly, to reduce the cost of milk produced by making the animals "cut their own grass" during the day and night; secondly, to facilitate the selection of animals more adaptable to local climatic conditions.

After a cautious start to ascertain the reaction of cattle owners to artificial insemination, it is gratifying to record that this service is now accepted and is proving very popular. During the year a total of 1,323 inseminations were made. At the St. Joseph Farm, the average number of inseminations per pregnancy was 1.8.

In order to ensure a more reasonable distribution of heifer breeding stock, it was decided to release heifers for sale by a scheme whereby approved peasant farmers were able to purchase these animals at their slaughter price as against their market value. The successful farmers were required to sign an agreement form embodying the conditions under which the heifers were to be maintained during three years. A total of 34 grade Holstein Heifers were distributed under this scheme.

With the marked expansion of the poultry industry, the Department's poultry work is being intensified. A Senior Agricultural Assistant (Poultry) has been appointed for this purpose. In addition to Rhode Island Reds and White Leghorns, White Rocks have been introduced to St. Joseph Farm. This breed has been selected for trials in broiler production.

AGRICULTURAL POLICY

1. Previous reports have outlined the recommendations of the Local Food Production Committee in considerable detail, and it is not considered necessary to reproduce them here. Suffice it to say that the recommendations followed the general principles listed below :

(1) Optimum use of the land for the purpose to which it is best suited, to be the basic condition of the measures to be pursued.

(2) Increase in local food production to be undertaken as an integral part of a long-term project aimed at placing all phases of local agriculture at the highest sustained potential, while ensuring that, in case of a shipping crisis, adequate food would be available.

(3) The agricultural education of the rural population to be a major function of the Extension Division of the Department of Agriculture.

(4) Complete self-sufficiency in all respects not being a sound objective, either economically or sociologically, and the increase of exports being essential for maintaining the rising standard of living of the growing population, a proper balance to be maintained between production for local consumption and production for export.

(5) The scope of the Agricultural Credit Bank to be widened to enable loans to be issued for fisheries development and for the manufacture or processing of agricultural or fishery products.

(6) Controls on the prices of locally-grown foods to be abolished.

(7) Measures to be taken to reduce the indiscriminate damage by fire to soils and crops.

(8) Income tax legislation to be amended to encourage greater capital investment in agriculture.

(9) Greater emphasis to be placed on livestock production; the slaughter of females to be forbidden and the Department of Agriculture to be equipped for the provision of much larger numbers of breeding stock.

(10) Tenancy laws to be amended to encourage proprietors to rent and use land.

(11) Rebate of the tax on gasolene, to be expanded to all field cultural operations and fishing boats.

(12) Crown lands to be leased not sold; a probationary agreement involving a programme of work to precede the granting of a long-term lease.

(13) Shifting cultivation to be avoided and emphasis placed on permanent long-term residential occupation.

(14) The planting of food bearing trees to be encouraged.

(15) Increased production of rice to be encouraged.

(16) A plant to be erected for the conversion of citrus waste to stock feed.

(17) The production and distribution of balanced rations to be improved and extended.

(18) Additional breeding units to be constructed.

(19) Cacao Rehabilitation to be accelerated.

(20) Banana plants to be imported for accelerating the establishment of an export industry.

(21) Government teak plantations to be extended by 200 acres per annum, not only for wood, but for the short term food crops produced in the initial stages of teak planting.

(22) The fishing industry to be modernized and improved.

(23) An Agricultural Engineer to be appointed.

(24) Two hostels for short practical courses in agriculture to be erected.

(25) Audeo-Visual aids for agricultural education to be encouraged.

Most of these have been implemented or are in the course of implementation; and the report which follows indicates the progress made in 1955.

AGRICULTURE IN THE COLONY

General Conditions

2. The annual rainfall from a number of selected Stations throughout the Colony and the monthly mean for 1955, as well as for a 24-year average, are given in Tables I and II. These data have been kindly supplied by the Hydrologist of the Works and Hydraulics Department. The rainfall in Trinidad had a normal distribution, but in Tobago, the first half of the year was exceptionally dry, there being no appreciable rainfall until the middle of June.

3. Because of a rise in the cost of living index, there were two increases of four cents per day to daily-paid Government workers—one in February; the other in September.

Agricultural Products for Home Consumption

CROPS

4. In Trinidad, normal weather conditions permitted the expected seasonal production of home grown food. Ground provisions were in fair supply during the first half of the year, though there is greater need for the increased production of these crops. The output of market garden crops was good in those areas devoted to their cultivation. Some losses were experienced by the flooding of lagoons bearing dry season crops during February and March. There was a local glut of cabbages at Aranguez,while in other parts of the Colony, a condition of relative scarcity existed. This indicates that the marketing of these crops could be improved. The production of peas and beans was not outstandingly great. The supply of maize was insufficient. A great deal of this crop continued to be consumed in the green state.

5. With regard to rice which is produced in Trinidad and not in Tobago; apart from floods in certain lagoons during July, August and November, with their consequent losses, cultivation was as usual. No great increases or decreases in acreages were noted. Yields averaged 2,200 lb. of paddy per acre. In some instances, yields of about 3,000 lb. per acre were obtained. The rationing of rice ended on 31st October. The price of, freely available, imported rice from British Guiana was then fixed at 13½ cents per lb. In consequence of this, the price of locally produced rice fell from its usual figure of 18 cents to 20 cents per lb. to 12 cents per lb. or less.

6. In Tobago, bananas and plantains were adversely affected by the long dry season and, for the same reason, the planting of the main yam crop was delayed. Because of this unfavourable dry season, the volume of bananas, plantains, ground provisions and pulses reaching the market was less than in the previous year. It may, however, be noted that the maize crop was a good one and production exceeded that of 1954. There was also some increase in the small production of tomatoes and other types of green vegetables.

7. With regard to fruit, though citrus and bananas are grown for export, fairly large quantities are consumed. Table IX shows that 108,571 cartons of citrus juice were sold locally. Apart from citrus and bananas, avocadoes and mangoes were the most important fruit produced. Most of these were consumed locally.

LIVESTOCK

8. *Supply of Stock Feeds*—Although the corn crop was a poor one, adequate supplies were imported from abroad. The increased use of rice offal by livestock owners led to a direct reduction in the quantity purchased by the Marketing Board and, therefore, in the amount of rice bran and broken rice incorporated in the prepared rations. Adequate supplies of cotton-seed meal and molasses were available, but supplies of coconut meal were irregular. About 2,100 tons of dehydrated citrus pulp meal were made at the new plant operated by the Co-operative Citrus Growers' Association.

9. *Supply of Animal Products*—Returns from Municipal and Government controlled slaughter houses, which do not represent complete data for all livestock slaughtered in the Colony, showed that 754.24 tons of beef and veal; 381.63 tons of pork and 49.13 tons of mutton were produced from animals slaughtered. Similarly, complete production figures for fresh milk are not available, but returns from the larger producers show that they handled 299,921 gallons per month. The supply of meat, milk, fish and animal products, generally, was inadequate for self-sufficiency and these commodities had to be supplemented by importation as will be seen by the preliminary figures given in Table III.

10. *Apiculture*—There were 234 registered apiaries at the close of the year, of which six were in Tobago. The 110 apiaries which have made returns show a production of 126,604 lb. of honey and 1,654 lb. of wax from 1,963 colonies of bees.

Agricultural Exports in 1955

11. Preliminary figures, indicating a slight reduction, show that the value of agricultural exports, raw and manufactured, was $53,023,422 as compared with $53,240,822 in 1954.

12. The quantity and value of the various agricultural exports are shown in Tables IV and V, the data for which were kindly supplied by the Government Statistician. The figures quoted are preliminary ones and are subject to a final review.

Sugar

13. The year 1955 saw the highest total sugar production in the history of the Colony's industry. A total of 192,793 tons was manufactured. This was 20,028 tons more than the 1954 production of 172,765 tons, which had been, itself, a record. This record production was due to almost ideal conditions experienced during the crop, combined with good juice quality.

14. The final crop figures compared with the previous year are set out in Table VI.

15. It will be noted that farmers' deliveries during the year (644,036 tons) represented an increase of almost 100,000 tons over the previous year. A similar increment occurred in 1954 over 1953. The tonnages of farmers' canes ground and prices paid for 1952 to 1955 are set out in Table VII. The local reservation was, as in 1954, fixed at 23,000 tons. This included sugar used in the manufacture of products for export.

16. The total quantity of sugar exported amounted to 169,732 tons of which 13,701 tons were shipped to Canada and the remainder to the United Kingdom. Shipments in bulk amounted to 105,979 tons compared with 69,588 tons in 1954. Of this quantity, 1,501 tons were shipped to Canada, which marked the first shipment in bulk from the British West Indies to that country. Shipment of sugar by this method, which commenced in 1950, when 1,600 tons were lifted, has now become permanently established in this Colony and during 1956 it will be developed further.

17. Attacks of froghopper in certain parts of the Colony were fairly severe towards the latter part of 1955. Control measures were vigorously pursued and in some cases the attacks were held in check.

18. The price of 1956 Negotiated Price Quota Sugar was fixed at £40. 15s. 0d. ($195.60) per ton—the same as it was in 1954. This price relates to the negotiated price quota of 124,578 tons only. The price for the remainder of Trinidad export production is determined in accordance with the demands of the free market. At the beginning of 1956, it was about £10 ($48.00) lower than the Negotiated Price.

19. Consequent upon the Report of the Board of Enquiry into the causes and circumstances of a dispute in the sugar industry under the Chairmanship of Professor D. T. Jack, the wages of sugar workers were increased with effect from 10th January, 1955 by four cents per hour and 32 cents per day in respect of all hourly and daily rated employees; 16 cents per task for task workers with corresponding increases to other rates; and $2.40 per week and $4.80 per fortnight to all weekly and fortnightly paid workers respectively. War bonuses and certain attendance bonuses were consolidated with basic pay. Vacation leave of seven days with full pay was increased to 14 days after an employee had been granted four successive annual leave periods.

Cacao

20. Cacao exports amounted to 16,459,744 lb. compared with 17,640,784 lb. in 1954, the exports and value of raw cacao in the last five years are shown in Table VIII.

21. Good progress can once more be recorded for the rehabilitation of the industry by means of the Cacao Subsidy Scheme. Demand for clonal plants again show an appreciable increase over the previous year. Details of plants distributed are shown in the section of this Report dealing with the activities of the Cocoa Board.

22. The prospects for the 1956 harvest are promising, though, on the whole the crop will be a late one. It has, however, escaped heavy loss from Black Pod which adversely affected the crop of the previous year.

Citrus

23. The 1954-1955 crop of grapefruit and oranges was very good. The Co-operative Citrus Growers' Association received fresh fruit from 17th November, 1954 to 21st May, 1955, over one month longer than in the previous year.

24. The 1955 output of fresh fruit and canned products by the Association is shown in Table IX.

25. The total value of all citrus products exported was $2,953,098 as compared with $2,051,591 in 1954.

26. Because of rain in certain areas of Trinidad during the flowering period, fruit setting was hampered and the crop of 1955-1956 is estimated to be about one-third less that that of 1954-1955.

27. The Association began to receive fruit on 8th November, 1955, and by the end of the year, 32,440 crates of grapefruit and 16,792 crates of oranges had been delivered to the packing shed. Fruit size it may be noted, continues to decrease, as in previous years. Superficial scarring has been respnosible for a high percentage of culls in grapefruit.

28. The production of limes declined during the year because of "dieback disease" and a reduction in their prices.

29. Almost all new planting of citrus in Trinidad was made with plants raised in the department's station in St. Augustine. During the year, the number of plants distributed from the station was as follows :—

Grapefruit	23,619	(to plant approximately 335 acres)
Oranges	68,613	(to plant approximately 686 acres)
Limes	5,457	(to plant approximately 54 acres)
Other Citrus Plants ...	1,843	
	99,532	

30. The Co-operative Citrus Growers' Association purchased 490 tons of fertilizers during 1955 of which 476.3 tons costing $53,583.75 were sold to its members.

31. In Tobago, the acreage planted to grapefruit and oranges continued to expand, mainly because of a demand for fresh fruit by the increasing tourist trade.

Coconuts

32. The total value of all exports of coconuts and their derivatives amounted to $1,903,586 which is an increase of $1,200,950 over the figure for 1954.

Coffee

33. Early in the year, coffee prices fell from 80-85 cents per lb. to about 40 cents per lb. The exports of raw coffee were 1,475¼ tons valued at $1,727,264 as compared with 1,774 tons valued at $3,835,294 in 1954.

Bananas

34. From 7th November, shipments of Gros Michel bananas to the United States of America ceased and, from that date, all acceptable bananas were shipped to the United Kingdom. Exports to the United Kingdom were on a trial basis until September, when the 15-year contract made by the Marketing Board with Union International Company came into force.

35. From 1st January to 7th November, a total of 45,846 bunches of Gros Michel, valued at $105,603, was shipped to the United States of America. A total of 81,311 bunches was despatched over the same period of 1954.

36. Shipments to the United Kingdom amounted to 23,074 bunches, weighing 838,397 lb., with a value of $44,692. It is gratifying to note that these exports increased from 760 bunches in February to 9,735 in December.

Tonca Beans

37. Exports of tonca beans increased considerably. 119,176 lb. valued $157,200 were shipped in 1955 compared with 23,846 lb. valued $37,054 exported in 1954.

Rubber

38. Fifteen thousand, seven hundred and eighty pounds of raw rubber valued $10,501 were exported in 1955. No rubber was exported in 1954.

WORK OF THE DEPARTMENT OF AGRICULTURE

39. As in 1954, the work of the Department was affected by shortage of staff, particularly in the Extension Division.

40. This section of the Report summarises the activities and achievements of the Department of Agriculture. Fuller details in unpublished reports of individual officers are available, and enquiries regarding any particular aspect of the work will be welcome.

Extension

41. The following services were undertaken by the Department's Extension Division during the year :—

(*a*) general advice to the public on agriculture;

(*b*) inspection visits to school gardens for advice and judging, in connection with the annual field competitions;

(*c*) supervision of over 10,000 acres of Food gardens;

(*d*) inspections and allocation of Crown land and the preparation of detailed programmes of work for applicants under 3-year probationary agreements leading to a 25-year lease;

(*e*) assistance and support to agricultural organisations; agricultural exhibitions; field and livestock competitions;

(*f*) supervision of the district breeding units;

(*g*) supervision and management of district demonstration stations;

(*h*) parasol ants destruction on Crown lands;

(*i*) crops surveys and the collection of district information;

(*j*) assistance to the Rice Division in the distribution of pure line seed paddy to farmers;

(*k*) implementing legislation for plant protection.

42. District demonstration stations are maintained at Sangre Grande, Rio Claro and Penal in Trinidad and at Louis d'Or in Tobago, the objects of these stations are :—

(*a*) to ascertain suitable systems of mixed farming for application to peasant agriculture;

(*b*) to demonstrate methods of crop production and livestock management which the peasant could copy;

(*c*) to be centres for the distribution of seed, planting material and stock;

(*d*) to be local headquarters of the Agricultural Department.

43. Disposal of livestock and crops from the four Demonstration Stations for breeding and planting purposes and for consumption is included in Table X.

44. The revenue derived from the major and minor demonstration stations as well as from 24 breeding units under the control of the Extension Services amounted to $48,005.41 as compared with $41,821.05 in 1954.

45. Examination of the revenue figures revealed that cacao was again the highest revenue earning crop followed by bananas, plantains, fruit, copra (manufactured at only one station), rice and ground provisions.

46. Heavy rains, which resulted in recurrent floods, adversely affected the production of market garden crops.

47. Rice nurseries were seriously affected, while heavy rains in August caused damage to, and in certain instances resulted in the complete loss of the rice crop.

48. Supervision of the district breeding units formed an important part of livestock extension work. Field Staff supervised the construction of a stud unit building and Stockman's house at Turnbridge, Mayaro. During the latter half of the year, this unit was opened and a stud bull, buck and boar were made available to farmers of the area. Towards the end of the year, services by bulls were discontinued at the Mucurapo Unit and artificial insemination was introduced. Semen from grade Holstein bulls was used.

49. From all stations and breeding units controlled by the Extension Services, 13 sows, 484 piglets and 10 boars were produced and sold to farmers. In addition, 257 cockerels were exchanged and 38,852 eggs were produced. A total of 53 goatlings and 26 rabbits was also sold. The demand for weaner pigs continued.

50. Work on the establishment of the banana industry, based on the Cavendish varieties, continued. The field staff carried out planting inspections and gave general advice on the cultivation of bananas. In addition, they assisted the Marketing Board in the purchase of the crop for export.

51. Banana nurseries and plants were established on the various stations. Some 6,000 suckers were produced for planting purposes.

52. The pilot fertilizer scheme for bananas, referred to in last year's report, in which issues of free fertilizer to selected farmers are made, after they have met the criteria of good cultivation, continued during the year. Results, so far, have been encouraging. It was noted that out of a total of 62 banana plots, 42 have responded well, in terms of growth and yield, to regular fertilizer applications. It is proposed to increase the number of plots in 1956.

53. The Staff intensified their activities in connection with Red Ring disease of coconuts. Propaganda and demonstration work were carried out. The response from both small and large growers, although slow, was nevertheless encouraging.

54. Inspections and recommendations were made concerning the sale of government bred stock to suitable farmers.

55. Field competitions were held in all counties and successful banana field days were organised at district stations and farmers' holdings. The Tobago Agricultural Society held its 8th Annual Agricultural Exhibition at the Louis d'Or Station. It was considered the most successful one of the series held so far.

56. A course of lectures and demonstrations was given to the Morvant Vocational Institute; talks were given to District Agricultural Societies and a Senior Officer gave a talk at a Seminar for members of Junior Co-operatives.

57. Two Field Assistants' houses were built, departmentally.

58. Crown lands recommended for probationary agreements and 25-year leases are listed in Table XI. Examination of the figures shows that for the period 1950-1955, 288 persons occupying 2,655 acres had obtained probationary agreements and 131 persons occupying 605 acres had been recommended for probationary agreements.

59. A total of 41 persons occupying 937 acres had obtained 25-year leases, while 30 occupying 341 acres had been recommended for 25-year leases.

Central Experiment Station

60. *General*—The Staff situation remained unchanged during 1955, senior officers being up to full strength while there were many gaps in the junior ranks.

61. Investigational work on the major crops continued along the lines of agronomy and pest and disease control. New lands have been put into pasture and fodder crops; many introductions of grasses have been made; legumes and other fodder plants are undergoing preliminary trials.

62. Banana nurseries, established the previous year, commenced producing planting material which was distributed to prospective growers during the wet season. New nurseries were established for providing additional plants during the next year.

63. *Outline of Investigational work*—The agronomic and pest and disease investigations of this division are outlined below:—

(*a*) *Sugarcane*—Variety trials; lime fertilizer trials; multiplication and observation of new hybrid varieties of sugarcane.

(*b*) *Cacao*—Evaluation of the performance of various clones; shade; spacing and fertilizer trials; cultivation experiments; selection and hybridization for resistance to witches' broom disease.

(*c*) *Fruit Crops*—Most of the investigations were centered on citrus, while other tropical and sub-tropical fruit trees were established in a museum for further study. The citrus work covered the introduction of new varieties, rootstock and management trials; disease problems and nursery investigations.

(*d*) *Coconuts*—Testing of selections and expansion of these on coastal sandy soil; pest and disease control.

(*e*) *Bananas*—Nursery investigations; pest and disease control.

(*f*) *Fodder*—Introduction and extension of fodder grasses, legumes and other non-leguminous species; establishment of stool forming grasses and pastures; grazing trials and field management.

(*g*) *Rice*—Selection of varieties for yield and growth habits; production of pure line seed for distribution to farmers; trials with short-term vegetables for dry season cultivation in paddy fields.

(*h*) *Soil Survey*—Surveys were conducted in Caroni Savannah, in Southern Trinidad and in Tobago.

(*i*) *Soil Conservation*—Runoff trials to ascertain soil loss under different types of vegetation; land use on slopes to prevent erosion.

(*j*) *Introduction*—Introduction of oil seeds, fibres, fodder and food crops for trial under local conditions.

(*k*) *Plant Diseases*—Investigations concerning virus diseases of cacao; survey and control of Red Ring disease of coconuts; investigations of the Melanose spotting of grapefruit; seedling lime disease; leaf spot and moka disease of bananas.

(*l*) *Plant Pests*—Investigation on the control of banana weevil borer; cacao beetle; black bee pest of citrus; palm weevil affecting coconuts; moth borers affecting rice and sugarcane; sweet potato moth borer; pests of stored products.

64. Field experiments were also conducted off the station where different conditions of soil or climate made this course desirable.

65. *Commercial Crops*—The crops reaped from old established cacao and coffee cultivations were as follows:—

Cacao	...	...	...	82,125 lb.
Coffee	...	...	...	8,974 lb.

Special attention was directed to the making of roadways and the area was divided into 29 fields.

St. Augustine Station

66. *Weather*—The dry season made heavy demands on the obsolete irrigation system which, nevertheless, operated without serious effect to established cultivations.

67. *Citrus*—Lifting and distribution of citrus plants started in June and continued until November. A total of 99,532 plants were distributed. Of this 23,619 were grapefruit, 68,613 oranges and the remainder of 7,300 consisted of other citrus varieties.

68. There were 25,000 "standovers", budded late, which did not make sufficient growth to warrant distribution.

69. There was a slight drop in the demand for citrus plants as shown by the orders placed for next year but, nevertheless, this demand greatly exceeded that which the station can supply.

70. *Avocado*—The number of avocado budded plants was 12,687, representing a 30 per cent. increase on the number distributed in 1954. Plants ordered for 1956 amounted to 18,000. The station should be able to supply about 15,000.

71. *Mangoes*—Seven thousand, one hundred and ninety-eight plants were distributed. This represents a great increase on the previous year when 4,412 plants were supplied.

72. *Vegetable and Ornamental*—The demand for vegetable seedlings, ornamental seedlings and ornamental potted plants continued to grow. The station has, accordingly, increased its production in an attempt to meet this demand. The distributions of vegetable and ornamental seedlings from St. Augustine for 1952-1955 are shown below:—

Total Distribution of Vegetable and Ornamental Seedlings for 1952-1955

	1952	*1953*	*1954*	*1955*
Vegetable seedlings (boxes) ...	9,450	7,971	7,617	9,808
Ornamental seedlings (boxes) ...	5,276	5,998	6,868	8,783

73. More than 66,000 decorative plants were sold in bamboo pots. This includes 11,000 trees, an indication of the great interest taken in landscaping.

74. *Orchard Crops*—The grapefruit crop was very good with a yield of 10,764 crates giving an average of six crates of fruit per tree. Eight thousand two hundred and thirty-eight crates were sent to the Co-operative Citrus Growers' Association and local sales accounted for 2,526 crates.

75. Two hundred crates of oranges were sold to the Co-operative Citrus Growers' Association and about 679 crates were sold locally.

76. *Field Crops*—Corn, pigeon peas and yam were grown with the view of providing high quality planting material. Most of it is sold to the Marketing Division. Production for the year was as follows:—

Corn	3,648 lb.
Pigeon peas	520 ,,
Yam	29,040 ,,

77. *General*—Surplus vegetable seedlings were planted out on the station and the produce sold locally at current market prices.

78. One thousand, eight hundred banana plants were sold to District Stations.

Royal Botanic Gardens

79. *Introductions*—The following introductions were planted:—

1. *Cassia carnaval*
2. *Caesalpinia mexicana*
3. *Luhea speciosa*
4. *Caesalpinia peltophroides*
5. *Melalenea nodosa*
6. *Melalenea amarallis*
7. *Melalenea spypheloides*
8. *Pyracantha coccinea* var. *rolandii*
9. *Pyracantha coccinea*
10. *Abberia caffra*
11. *Jacaranda acutifolia*
12. *Jacaranda mimosaefolia*

In addition to this, forty replacements were planted.

80. *Requests for seeds*—Forty-three requests for seeds were received from overseas and 140 packets of seeds supplied in response.

81. *Labels for trees*—In an attempt to reduce the deliberate removal and destruction of labels from trees, all labels are being anchored in concrete bases.

82. *Public Grounds*—Advice on ornamentals and landscaping was given throughout the year, mostly to residents of Port-of-Spain. Planting of the following grounds was undertaken:—

1. Chief Architect's Quarters;
2. Postmaster General's Quarters;
3. Colonial Hospital, San Fernando;
4. Sisters' Flat, San Fernando;
5. Union Hall roundabout, San Fernando;
6. Wireless Station, Piarco.

Several trees were felled or pruned on Government Grounds in Port-of-Spain at the request of the Works and Hydraulics Department.

Sugar Cane

83. At the Central Experiment Station 67.11 acres of cane were reaped which yielded 2,860.5 tons, or 42.62 tons per acre.

84. About 21.5 acres were planted, including three variety and one lime fertilizer trial, as well as a large number of multiplication plots.

85. Seventeen varieties of the B 53' Series were received from the B.W.I. Central Sugar Cane Breeding Station, Barbados, and in addition the following nine varieties were obtained through the Plant Quarantine Station: Q 47, Q 50, Q 56, Q 57, Eros, Pinder, Comus, P.R. 902 and P.R. 905.

86. Over 104,000 plants of the B 51', B 50', B 47', B 46' and B 45' Series were distributed to six sugar estates for further multiplication and trial. Included in this distribution were the "foreign" varieties H 37—1933, H 32—8560, P.R. 1000, P.O.J. 3016, Trojan, Ebene, P.P.Q. and N. Co. 310.

87. Twenty variety trials were reaped during the year; 10 by the Ste. Madeleine Sugar Co., seven by the Department of Agriculture and three by Caroni Ltd. Nine of these trials were reaped as long term plants, five as short term plants and six as ratoons.

88. B. 41227 occurred in three trials as young plants (10 months) and in two trials as first ratoons. As young plants it easily outyielded the standard variety B.37172 and in two of the three trials, its juice quality (Pol: per cent.) was better. As ratoons it outyielded B. 37161 but its juice quality (Pol: per cent.) was somewhat inferior.

89. The variety B. 4362 was reaped as long term plants (18+months) in eight trials and as ratoons in five trials. With one exceptoin its yields were greatly inferior to the standard varieties B. 37172 and B. 37161 and its juice quality was variable.

90. Of the newer varieties the following are worthy of further testing and trial:— B. 45152, B. 45267, B. 46102, B. 46151, B. 46218, B. 4744, B. 47419, B. 4747, B. 47380.

91. The varietal position during the year is given in Tables XII and XIII which show the percentage of each variety reaped, of the total acreage and of the plant cane acreage. It will be noted that there has been a further appreciable decrease in the acreage under B. 34104, which now occupies approximately only 7 per cent. of the total acreage. The acreage under B. 3337 has decreased slightly and this has been accompanied by a similar increase in B. 37172. The area under B. 37161 remains constant at approximately 21 per cent. Although B. 4362 occupied 6 per cent. of the plant cane acreage, its yields were extremely disappointing and it is most unlikely that any further plantings of this variety will be made. On the other hand, there is every likelihood that the area under B. 41227 will continue to increase.

Cacao

Clonal and Fertilizer Trials—Estates

92. No new sites were selected in 1955. The field experiments remained at 13 in Trinidad and six in Tobago. Routine maintenance work was carried out and the programme is up to schedule; the establishment phase (three years) has been completed, and yield data will be recorded next year.

Breeding and Selection of Witchbroom Resistant Clones

93. Records of yield and resistance to witchbroom were continued on:—

(*a*) introduced types from South America and local selections;

(*b*) seedling crosses of high yielding types with immune and high resistant selections from (*a*).

94. Breeding work carried out during the year at Marper Farm continued last year's programme. All progeny raised, amounting to 9,573, were planted out at La Chaguaramas (Central Experiment Station).

Cacao Projects—Central Experiment Station

95. *Field Experiments*—A variety trial comprising 21 clones was laid down. The clones being tested are as follows: D.S. 1, 3, 9; G.S. 19, 29, 36, 53, 65; I.C.S. 84, 89, 95, 100; U.F. 221, 650, 654, 667; S.P. 1; R. 2; P. 7, 18; P.A. 81.

Diseases and Pests

96. *Virus*—During the year efforts have been concentrated on the eradication of the disease from the Sangre Grande district. In Big Amadee Field, Non Pareil Estate, three inspections have been carried out for the year. A total of 135 infected trees and 304 contacts were removed.

97. Routine inspection was carried out during the year at La Pastora, La Reunion, Marper and Non Pareil Estate propagators. No virus infected trees were found at any of these stations.

98. An inspection was made of Mon Valmont Estate, Santa Cruz. Infected trees were found widely scattered over the estate and a small number of infected plants was discovered in the propagator. It is well known that virus is widespread in the Northern Range and attempts to eliminate it were abandoned a number of years ago.

99. It has been recommended that every effort be made to procure virus free cuttings for the propagator at Mon Valmont Estate. It is of course of the greatest importance that no plants be sent from this propagator to estates in virus free areas.

100. *Rosellinia Root Disease*—An outbreak of Rosellinia root disease (causative organism *Rosellinia* sp.) was reported from a young clonal field at Rio Claro. This was attributed to infection from old seedling trees, many of which had apparently died while the field had been in an abandoned state.

101. *Insect Pests*—The cacao beetle, *Steirastoma breve,* Sulz., attracted attention by its frequent damage to young clonal plants in many parts of the island. The old lead arsenate remedy still proved effective when painted on with the addition of a suitable sticker.

Cocoa Subsidy Scheme (Administered by the Cocoa Board)

PRINCIPLES

102. No variation to the principles of operation of the scheme were made in 1955.

103. *Rehabilitation*—The Board received 1,045 applications for rehabilitation subsidy. The total approved for the year was 520. This brings to 4,631 the total number of applications received since the inception of the scheme and to 3,825 the total number approved.

104. The total approved applications for the years 1953-1955 were divided among estates as shown in Table XIV.

105. Applications were received from planters for deliveries, during 1956, of 2,079,288 clonal plants in Trinidad and 260,275 plants in Tobago. Comparative figures for demand and allocation of clonal cacao plants for the years 1953-1956 are given in Table XV.

106. Of the plants distributed during 1955, 654,219 were delivered to planters and 40,226 utilised for nurseries and experimental work, as compared with 484,094 and 33,671 in 1954.

107. This distribution to planters represents the treatment of 3,818 acres of which 719 acres were planted by complete replanting and 3,099 acres by partial replanting.

108. Figures showing the distribution to planters by varieties are given in Table XVI.

109. The sum of $263,812.55 was paid out in subsidy for Cocoa Replanting during the year.

Manuring Subsidy

110. From 1952 the Board has been granting a Manuring Subsidy in the form of a free issue of fertilizer to planters of clonal cacao. In 1955 a total of 1,378 planters were supplied with 1,057 tons of fertilizer. Comparative figures for the years 1952-1955 are given in Table XVII.

Replacement of Cacao by Alternative Crops

111. There was a marked decrease in the number of applications for subsidy received in 1955 as compared with the number received in 1954. Only 119 were received as compared with 621 in 1954. The decrease was due, chiefly, to the uncertain state of the market for citrus and coffee.

112. One hundred and fifteen applications were approved in 1955.

113. The total applications received and approved from the inception of the Scheme to the end of 1955 were 3,211 and 2,713 respectively.

114. The total approved applications for the years 1953-1955 were divided among estates as shown in Table XVIII.

115. During the year assistance was approved to plant 17.9 acres of citrus, 189.33 acres of coffee, and the sum of $70.00 was approved for fodder and stabling. The sum of $64,078.54 was paid as a subsidy for the replacement of cacao by other crops.

Propagation

116. The average production efficiency of the Board's stations was 46 per cent. during 1955 (50 per cent. in 1954). Estate Propagators had an efficiency of 44 per cent. (57 per cent. in 1954) as compared with 47 per cent. (49 per cent. in 1954) on the Board's control stations.

117. Trials in the rooting of cuttings *in situ* in baskets (now referred to as Method 2) using a half core of coconut bass residue were continued on a large scale. Table XIX shows the result of this work contrasted with other methods of propagation at the La Pastora Station during the year. Production efficiency by Method 2 was 64.9 per cent.

118. The La Reunion Station produced 184,919 plants by Method 2 with a Rooting Efficiency of 75 per cent. and a Production Efficiency of 68 per cent.

119. It is planned to convert all propagating bins to production by Method 2.

120. The use of bamboo slats as an overhead shade in the storage sheds has resulted in greater losses than with a netting shade. At the close of the year substitutes (namely Saran plastic netting and Sisal netting) had been obtained along with further supplies of war surplus camouflage netting.

PROPAGATING STATIONS

121. *La Pastora*—Production in the year was 412,965 plants with a Production Efficiency of 48.5 per cent. (395,845 plants with a Production Efficiency of 49 per cent. in 1954).

122. The repairs and modifications commenced in 1954 were continued, concrete floors being laid on a further 14 units. The sum of $132,126.11 was spent on this construction work. The capital valuation of the station at 31st December, 1955 was $442,584.20.

123. Some 6,706 plants were set out in old nurseries during the year (12,063 in 1954). The total nursery area at the end of the year was 99,969 plants.

124. *La Reunion*—Construction of this station was completed by the end of the year. The sum of $512,673.74 was spent on construction during the year. The capital valuation of this Station at 31st December, 1955 was $879,049.69.

125. Production for the year was 238,206 as compared with 51,626 in 1954, this was achieved with a Production Efficiency of 43 per cent.

126. Some 39,036 plants (includes 2,272 supplies) were set out in nurseries during the year (11,000 in 1954). The total nursery production at the end of the year was 42,538 plants.

127. *Marper*—Production for 1955 was 53,637 plants (48,332 for 1954). This was achieved with a Production Efficiency of 44 per cent. (46 per cent. in 1954).

128. Some 547 plants were set out in nurseries in 1955, as compared with 442 in 1954.

129. *King's Bay* — Production for 1955 was 44,400 (32,886 for 1954). The Production Efficiency was 41 per cent. (43 per cent. in 1954).

130. Some 6,117 plants were set out in new areas at the Louis d'Or Station during the year. The total nursery population at Louis d'Or at the end of the year was 9,623 plants.

131. *Louis d'Or*—Construction was commenced in April, 1955. At the end of the year the station was approximately 70 per cent. complete. The sum of $205,920.28 was spent on the construction work during the year.

ESTATE PROPAGATORS

132. Two new estate propagators (assisted type) were constructed as compared with five in 1954. These were at Poole Syndicate and Greig (Cedros), each of 10,000 plant capacity.

133. The extension of the Non Pareil Propagator was completed early in the year.

134. In addition, an assisted propagator, 15,000 plant capacity, was commenced at the Lure Estate at the end of the year. This will be completed early in 1956.

135. These new estate propagators will commence operation in 1956.

136. Estate Propagators (assisted type) produced 152,926 plants during the year (115,016 in 1954). With a Production Efficiency of 44 per cent. (57 per cent. in 1954).

137. The following figures show the cost of production of one plant from the years 1953-1955.

Cost per Plant Production

	1953	*1954*	*1955*	*Average*
La Pastora	0.71	0.72	0.84	0.75
Marper	0.68	0.78	0.94	0.80
La Reunion	—	0.61	0.91	0.76
Average Central Stations ...	0.70	0.71	0.90	0.77
Average Estate Propagators ...	0.63	0.77	0.92	0.77
Colony Average	0.67	0.74	0.91	0.77

Fruit Crops

138. The bulk of the research done was on citrus. The La Reunion grapefruit trial on the Station and the citrus transplanting trials away from the Station were discontinued because sufficient data had been collected. Two plots of Ortanique orange were planted for observation as a variety with commercial possibilities.

Rootstock and Management Trial

139. The experimental treatments were maintained and measurements of girth were taken. The variability between plants has continued to be considerable and no uniform differences attributable to rootstock or management are easily discernible by visual observation. The superimposed management trial involving herbicidal control of weeds continued to be difficult. The entire field is overrun by Paragrass and in order to successfully establish the cover crop, it has been planned to eradicate this weed prior to replanting.

140. Prolonged rains during the rainy season caused flooding to this field and the annual cover of cow-peas could not be established. There was a prolific growth of corn grass throughout the field from seeds brought down by the flood.

141. Conditions on the Station have proved entirely unsuitable for limes and it is unlikely that much useful purpose will be served by continuing observations on the lime rootstock trial for very much longer.

Transplanting Trial

142. All the transplanting trials away from the Station were discontinued because sufficient data have been collected but the plot on the station is being maintained. The data obtained from these trials are to be analysed. From general observation, there seems to be no difference between *enpilon* or bare rooted plants.

Tree Management Trial

143. Routine maintenance of this experiment was carried out. The trees have not come into bearing as yet and it is too early to see any difference between the treatments. The height of budding and height of head formation trial, started last year, has grown well. Girth measurements and observations on the appearances of trees were recorded. Damage by Parasol ants to young shoots was not as prevalent as in the previous year; effective control being achieved by the use of "Aldrex".

Field Management Trials

144. The experimental trees of the trial at the Central Experiment Station were planted during the year. Treatments to plots of the trial on a private orchard were carried out. Leaf and soil samples were taken for analysis. The annual and perennial legume cover crops on both trials were planted but are proving difficult to establish. Mowing and discing have been deferred until the perennial cover is well established. The fertilizer treatments were applied. Girth measurements of stock and scion were taken of the experimental trees on the Station.

Orange Harvesting Trial

145. This trial was repeated for the second time. The hormone treatments were applied and the number and weight of fruit dropped were recorded. Samples of collected were analysed for juice quality. The data obtained from this trial for both years are being analysed statistically. It is proposed to repeat this trial for a third year.

Epiphyte Control on Grapefruit Trees

146. Investigations on the control of epiphytes on grapefruit trees by the use of "Hormone" herbicides were continued, and although a large number of wild pines and moss dropped from the trees, a fair number remained attached. Additional sprayings of hormone to these tenacious epiphytes failed to remove them.

Citrus Collection

147. The citrus collection was maintained. No new species were established during the year. Budwood of *Eustis limequat,* brought from Dominica, was successfully budded on rough lemon and Dominica Wild Grapefruit, but none of these survived transplanting.

Citrus Nursery

148. The nursery was extended and an additional 18,800 seedlings of different citrus rootstocks were planted during the year. One thousand and fifty-seven plants were budded of which 291 plants were planted on the Station and 306 were sold locally. Raffia is being used exclusively for wrapping the buds with very good success. A shortage of mechanical equipment prevented the cultivation of two other fields earmarked for nursery rotation.

Dying Out Disease of Lime

149. The two trials laid out at Alandale Estate, Toco, were supplied as plants became available from the nursery at the Central Experiment Station. The plots, with lime seedlings or plants budded on seedling lime rootstock, still have some gaps as a sufficient number of fruit from the selected trees was not available.

Withertip Resistance

150. The withertip resistant trees, kept under observation at the Station, have not yielded a quantity of fruit to make a proper assay of lime oil and juice quality for comparison with the West Indian Lime. The trees, however, have continued to be free from disease. Budwood was taken from these trees and budded on the Dominica Wild Grapefruit and cacao orange stock to supply gaps in the row.

Tropical and Sub-Tropical Museum

151. In the tropical museum the following additions were made: two *Anona squamosa,* two *Chrysophllum cainito,* two *Calocarpum mammosum,* two *Lecythis zabucajo,* two *Bertholletia excelsa.*

Pineapple Observation

152. Fairly large observation plots have been planted with suckers of Bullhead Natal Queen and Ripley introduced from Jamaica; Sugar Loaf and Black Antigua from St. Augustine Station and Smooth Cayenne, Santa Clara and Demerara from Mr. E. B. Smith. Fruits are to be examined for their suitability both for the fresh fruit and the canning trade. Methods of rapid multiplication by the use of stem cuttings are being studied.

Windbreaks

153. Continued good growth was observed with Pomerac, Galba, Mohogany, Gliricidia, Cassia and Casuarina. Some of the Galba have died from an unknown cause. Eight trees have died so far and have been replaced. Three Persian lilac plants are doing well.

Glasshouse

154. The glass house was chiefly used for the propagation of plants for the lime dying-out disease experiment at Alandale Estate, Toco. Dominica Wild Grapefruit, Rangpur lime, and cacao orange grafted on lime cuttings, were rooted.

Pests

155. The brown aphid, *Toxoptera aurantii,* Boy., which attacks the young leaves of citrus was effectively kept under control by predacious syrphid larvae at Caroni.

156. More nests of the black bee, *Trigona trinidadensis* were located near to the Central Experiment Station and destroyed effectively by spraying with Aldrin solution and cutting down the nests.

157. The tropical webbing spider begun to make its appearance on citrus trees again at Central Experiment Station with the advent of the rains. Low volume oil spraying with B.H.C. insecticide completely cleared the trees of webbing in two weeks.

158. Grapefruit at St. Augustine were damaged by the maggot of a fruit fly, *Anastrepha sp.* Only by bagging the fruit or preventing over ripe fruit to remain on the trees can this pest be controlled.

159. Many enquiries were received concerning scale insects, mealy bugs and white flies infesting leaves and fruits in Port-of-Spain. Usually a parathion spray was recommended.

Diseases

160. *Melanose Spotting of Grapefruit*—Severe spotting of grapefruit was observed on an estate in Cunupia. This has been attributed to attack by the Melanose fungus, *Diaportha citri*, and has resulted in spotted fruit being rejected for export.

161. A spraying and pruning trial for control of this disease is being carried out and results will be available in the near future when the fruit is harvested.

162. *Scab*—Scabbing of grapefruit (causative organism *Elsinoe fawcetti*) was reported from estates in Cumuto. This resulted in the rejection of fruit for export.

163. In this wet district, blossoming is often irregular and, therefore, protective spraying will have to be applied over an extended period.

164. It is doubtful whether spraying with conventional equipment will prove economic.

165. *Seedling Lime Disease*—Two experiments, started in 1952 and concluded late in 1955, have given the following indications:—

(1) Observations on these experiments tend to support the view that limes budded on rootstocks other than lime are not susceptible to the disease;

(2) results failed to lend any strong support to the view that the disease is caused by a soil-borne pathogan.

166. A further trial has been laid down during the year to test the effect on old diseased seedling lime trees of enarching with different rootstocks (Seedling lime, Sour orange, and Dominica Wild Grapefruit).

Bananas

Planting Material and Nurseries

167. Planting Material from the banana nurseries established at the Station and at Golden Grove was distributed to prospective growers. Distribution was made at the commencement of the wet season and again in September. It is expected to have a further distribution towards the end of the 1956 dry season. Requests for 158,453 suckers were received from 171 planters, but the nurseries were only able to supply 40,894 plants. Locally dug plants were, therefore, offered for sale and 34,953 of these were purchased by growers. Towards the end of the year, the Marketing Board imported 54,000 Lacatan suckers from Jamaica on behalf of larger growers who were unable to obtain adequate supplies elsewhere.

Propaganda for Banana Production

168. Interest in banana production has been aroused by a number of public demonstrations given at strategic points by members of the Department's staff. Field days were also held at Demonstration Stations and the Central Experiment Stations. Mention has already been made of the useful demonstrations laid down on several plots of peasants' land, by the staff of District Services (paragraph 52). Many of these were most striking and attracted a considerable amount of attention.

Diseases

169. *Leaf Spot* (*Causative organism Mycosphaerella musicola*)—In areas where partial shade was provided very little leaf spot was encountered. The disease was, however, extremely severe in open areas and control measures had to be adopted.

170. Efforts have continued during the year to make growers aware of this disease and its control by spraying.

171. In conjunction with the Parent and District Agricultural Societies, talks and demonstrations have been given on the disease and on spraying methods and equipment.

172. Experiments are in progress to determine the most effective use of conventional spraying methods under local conditions. These should yield final results shortly.

173. Much attention has been paid to machines and methods for low volume oil based sprays on which the pioneer work has been done in Guadeloupe.

174. Early indications of experiments here confirm the results obtained in Guadeloupe and show that oil based, low volume sprays are much more effective in controlling leaf spot disease than high volume water based sprays. The expense and skill involved in the operation of spraying equipment may well be beyond the reach of the individual planter. Consideration is, therefore, being given to the best means of overcoming this difficulty.

175. The perfect stage of the leaf spot fungus was first recorded this year in Trinidad, although it is highly probable that it has been present here for some time.

176. *Moko Disease* (*Causative organism, Pseudomonas solanacearum*)—Moko disease, or Bacterial Wilt, has been reported from various parts of Trinidad. These outbreaks have been invariably traceable to poor soil drainage or to the use of infected planting material.

177. A trial has been laid down at El Reposo Demonstration Station to test the effectiveness of certain cultivation and oil treatments in controlling the disease.

Insects Pests

178. The borer weevil, *Cosmopolites sordidus*, Germ., continued to be troublesome all the year round, particularly in neglected cultivations. Successful control is being achieved by soaking suckers before planting in Aldrin solution and spraying round the base of the plants with Dieldrin solution every six months.

179. At the end of the dry season there were many serious outbreaks of the hard back beetle, *Lygynus ebenus*, Degeer. No satisfactory control measures exist though several predisposing factors which favour the rapid breeding of this insect can be avoided.

180. An unusually severe attack on plantains by the boring caterpillars of *Castnia licoides*, L., occurred on an estate near to the Central Experiment Station.

Coconuts

Selection

181. Selected seed nuts from high yielding parent trees growing on local estates as well as importation from Ceylon have been planted in an isolated ten-acre block at the Central Experiment Station. The soil type is not particularly suited to this crop, but it is hoped that this disadvantage may not affect early production and that the collection of a reasonable amount of superior seed nuts will be possible from parents of known high yielding capacity. In the meantime the trial has been duplicated on a coastal strip of more suitable soil at Tairico Bay.

182. Criteria for selection were based on habit of tree including proper radial arrangement of branches, size of nut, kernal thickness of nut and annual output of nuts. At a later stage final selection criteria will also include percentage of oil in copra.

183. Trees in the selection block at Central Experiment Station have started to bear. A few cases of Red Ring disease have appeared.

Red Ring Disease

184. This disease (causative organism, *Aphelencoides cocophilus*), continues to be troublesome on many estates, particularly those with substantial acreages of young plantings.

185. Tree poisoning for field sanitation has been employed on some estates. From observations made on these estates it would appear that palm weevils do not breed in poisoned trees.

186. An experiment was started in September, at Manzanilla for the control of palm weevils, *Rhyncophorus palmarum* and *Rhina barbirostris* which are believed to be vectors of the disease. Trees of a susceptible age are sprayed every two months with a range of insecticides.

Rice

Rice Expansion Programme

187. *Plum Mitan and Fishing Pond Rice Expansion Schemes*—The main drainage and irrigation of these two schemes having been completed, the Works and Hydraulics Department is now engaged in internal developments. Roads are being built; internal drains, irrigation canals and access paths are being constructed in the fields on a contour basis; the construction of control sluices is about to be started. It is hoped that these works will be completed in 1956.

188. A total of 180 acres were rented on temporary agreements to farmers at Plum Mitan and 172 acres at Fishing Pond. The areas of paddy actually planted were 80 acres at Plum Mitan and 116½ acres at Fishing Pond.

189. *Caroni Savannah Scheme*—The main drainage works, which were completed in 1954, are still being maintained by the Works and Hydraulics Department. Future developments of this scheme depend upon further engineering and agricultural investigations.

190. Soil samples were taken each month during 1955 to determine the leaching of chlorides.

191. *Central Experiment Station Paddy Fields*—An area of 11½ acres was used for experimental purposes and rice selection work.

192. Fourteen acres were cultivated with dry season crops. Insects were extremely troublesome and the results were not very successful.

193. About 75 acres were cultivated in the wet season for the purpose of seed multiplication. In this area, the work of levelling terraces and of road construction continued.

194. Failure of the pumps at the beginning of the rainy season and during the planting season, because of engineering defects, hindered the establishment of nurseries; impeded the eradication of drop seed paddy and weeds before transplanting and thereby caused a reduction of acreage established and a reduction in crop yield.

195. The reaping of the paddy crop was somewhat easier this year because two large threshing sheds were erected in the fields. The crop was threshed under these by means of a large machine.

196. After deducting that part of the crop which was unsuitable for seed, the following quantities of dried, winnowed paddy remained available for distribution to farmers in 1956, subject to satisfactory germination tests:—

D 52/37	... ...	29,487 lb.
D 110	... ...	11,605 ,,
Sughandi	... ...	34,656 ,,
Red American	... ...	4,160 ,,
		79,908 lb.

SEED PADDY DISTRIBUTION 1955

197. The following quantities of seed paddy were distributed to farmers with the help of the Extension Division:—

D 52/37	... ...	22,780 lb.
D 110	... ...	51,011 ,,
Sughandi	... ...	25,980¼ ,,
		99,771¼ lb.

198. The quantities of seed paddy distributed from 1953-1955 are shown in Table XX.

Paddy Competitions

199. Competitions were organised in Plum Mitan and Fishing Pond Rice Expansion Schemes, Oropouche Lagoon and in the Caroni Irrigation Area, for the purposes of encouraging farmers to produce and retain seed paddy.

Collection of Statistical Data

200. Additional statistical data pertaining to the Rice Industry were collated and are now being examined by the Government Statistician.

Engineering Investigations for Rice Expansion

201. Investigations by a firm of Consulting Engineers, commissioned by the F.A.O., into the possibilities of reclaiming swamp land of Trinidad started at the end of 1954 and continues.

Revenue

202. The revenue of the Rice Division is included in Table XLV.

Purification of Seed

203. In accordance with the present seed distribution policy, pure lines of Sughandi, D 52/37, D 110 and Red American have been grown by the Economic Botanist. This seed is used by the Agronomist (Rice) for the cultivation of paddy for distribution to farmers.

204. Eighty-three pure lines were grown in the hundred and in the thousand head stages with a view of purification before testing. In addition, 51 hybrids from the United States and 20 from British Guiana were grown as population rice. Selection of pure lines will commence next season.

Variety Trials

205. Five variety trials were laid down at Central Experiment Station. From the results, the general conclusion drawn was that D 52/37 was potentially the highest yielder, but the poor stand which characterised this variety in all trials undertaken, must be viewed with concern. The performance of Sughandi was disappointing as poor yields were obtained throughout. Red American though a favourite in many areas, gave yields too poor to recommend it for distribution. Certain local selections, e.g., T.L.S. 52/293, T.L.S. 52/354, Joya 47/16/51/11 and Joya 47/15/51/27 gave excellent results, which if repeated in further trials might warrant the inclusion of one or two of them among the varieties distributed to farmers. The individual trials undertaken are described below.

Trial I

This trial was designed with the view of comparing four standard varieties recommended for distribution, viz. Sughandi, D 52/37, D 110 and Red American and to assess the performance of different pure lines within each variety. D 110 and Sughandi gave significantly higher yields than Red American and D 52/37. There was however no significant difference in yield between D 110 and Sughandi nor between Red American and D 52/37. It should be mentioned that the stand of D 52/37 was poor for 67 per cent.

of stools were missing at harvest time as compared with 15 per cent. for D 110, 26 per cent. for Sughandi and 14 per cent. for Red American. The stand of D 52/37 was significantly poorer than that of any other variety. There was no difference in stand between other varieties. No significant difference in yield was detected between the different pure lines within each of these four varieties.

Trial II

In this trial 12 pure lines of Joya, a local selection, were compared. It was found that the best two performers 47/15/51/27 and 47/16/51/11 gave yields of 4,400 and 4,379 lb. per acre respectively, being more than twice as great as the poorest two, 47/38/51/3 and 47/11/51/5, which yielded 2,054 and 2,013 lb. respectively. This clearly demonstrates the variability in seed used by local farmers and the need for establishing pure lines before final testing.

Trial III

Forty-nine pure lines were compared for yield in a 4 replicate 7 × 7 balanced lattice square. Line 47/8/51/23 of variety D 52/37 topped the list, having given a significantly higher yield than any other pure line. Line 47/8/51/27 of variety D 52/37 and T.L.S. 52/293 were next. At least four lines of Joya gave yields as good as the best pure line of variety D 110. The high yields obtained from these local selections (T.L.S. and Joya) are of great significance and if they maintain their positions in next season's trials they would be considered for distribution.

Trial IV

Five pure lines, regarded to be the best of each of the varieties Sughandi, Red American, D 110 and D 52/37 were compared for yields in a 5 × 5 Latin Square. The results showed no significant difference between yields of D 52/37, D 110, and Red American but both D 52/37 and D 110 gave significantly higher yields than D 54/42 and Sughandi. D 52/37 had a significantly greater percentage of missing stools than Red American.

Trial V

A 5 × 5 Latin Square with split plots was laid down to compare the yields of five pure lines of each of the varieties Bolo, Toma, Red American, No. 79 and Sorro. Unfortunately certain plots were destroyed and it was regarded unwise to apply statistical analysis to the results.

Other Trials

206. A uniformity trial was laid down, its object being to assess crop response to soil variability brought about by establishing and grading of plots. The variety used was Sorro. Unfortunately, there were too many missing stools at harvest time to permit analysis.

207. A pilot trial was laid down to assess the value of various hormone-type weed killers on the common weeds of rice. Those used were M.P.C.A., and its salts, amine salts and esters of 2,4—D; an ester of 2,4,5—T and bush killers (mixed esters of 2,4—D and 2,4,5—T). An ethyl ester of 2,4—D gave promising control of weeds.

Other Food Crops

Maize

208. A variety of maize, commonly imported from South Africa for stock feed, was tested against a local selection and Mayorbella, originally imported from Puerto Rico. The performance of the South African variety was poor. Its yield was only about one-half that of the standard varieties. The grain was also of extremely poor quality, the greater part being damaged.

Sorghum

209. On request, a trial was laid down at the Central Experiment Station to assess the possibilities of growing broom corn as a commercial crop. Heavy rains damaged the crop in the early stages and the yield of brooms was extremely disappointing.

Cassava and Pigeon Peas

210. Selected material of Cassava and Pigeon Peas is available. The demand remains small.

Sisal

211. The sisal planted at O'Meara Breeding Unit and along the Caroni North Bank Road is progressing satisfactorily. A new nursery has been established at Central Experiment Station.

Cover Crops

212. The 46 new species of Legumes introduced last year, were again grown this year. A further 12 species were introduced during the current year. Five thousand feet of hedge of *Tephrosia candida* was established as a source of seed material.

Oil Palms

213. Growth of the palms planted at Central Experiment Station has been satisfactory but no seeds have been produced so far.

Russian Comfrey—Symphytum Peregrinum

214. Russian Comfrey was introduced and planted in February at Central Experiment Station. Clumps from original plantings were broken up in September and a larger area established. So far growth has been only fair. A few plants were lost as a result of attack by *Sclerotium rolfsii*.

Grasses and Forage

Central Experiment Station

215. At the Central Experiment Station, a further 26 acres of Elephant Grass were planted, bringing the total area under stool forming grasses to 80 acres. In addition, there are 12.5 acres under Kudzu and some 36 acres of fenced holding paddocks.

216. The average number of adult stock carried through the year amounted to 123. When the relatively low productivity of some of the older fields is taken into account, the intensity of stocking continued to be rather high.

217. The 12½ acres of Kudzu, which was planted in October 1952, continued to provide excellent grazing at an average of every six weeks. Over the past two years this field has given approximately 200 cow days (calculated at 8 hours per day) grazing per acre per annum.

218. For the first time, an insect attack on Kudzu was noted. In late September, a heavy infestation of the leaf webber, *Lamprosema indicta* F occurred, but natural recovery took place within two to three weeks.

219. Pangola Grass (*Digitaria decumbens*) and Locuntu Grass (*Ischaemum timorense*) have continued to show great promise as pasture grasses suitable for grazing. Both grasses are easily established and require little or no weeding.

220. Pangola Grass flowers during the first part of the wet season and flowering reaches its peak by about mid August. It withstands the dry season extremely well and remains green and growing when most other grasses are parched and brown. So far, most of the areas planted have been on relatively free draining soils, but a recent planting on a very poorly drained silty clay has shown good initial growth.

221. Locuntu Grass flowers during the end of the wet season and flowering is at its peak by December. It makes very little growth during the dry season and it appears to do best on soils which remain moist.

222. During the year the establishment of a grazing trial was started at the Central Experiment Station. Its object will be to compare and evaluate the yield of four grasses—Elephant, Pangola, Locuntu and *Setaria sphacelata* under different periods and intensities of grazing.

223. Besides the plantings made at the Central Experiment Station, Pangola Grass has been established at the St. Joseph Farm (21 acres), the Tobago Stock Farm and on private lands. At all of these places its early performance has been encouraging. In addition, small observational plots, which also include Toco, Locuntu and Savannah grasses were established on the Orange Grove Savannah; it is hoped later to establish similar plots in other areas.

224. During the year several of the Pangola Grass plantings at the Central Experiment Station were attacked by the leaf hopper, *Kolla mollicella, Fowl.* The attacks were not, however, severe and normal growth was only slightly reduced.

225. The following grasses were introduced and established in observation plots : —

Pennisetum ciliaris—Buffet Grass,

Andropogon ischaemum—Yellow Bluestem, from the Asgrow Seed Cor., Texas; and

Panicum coloratum var. *Marikariensis, Cenchrus ciliaris,*

Cenchrus setigerus from the Grassland Research Station, Marandella, Southern Rhodesia.

226. *Carlsen Field*—The thirty acre block which was planted to different grasses and Kudzu in 1953 was maintained. Many portions of this area are badly drained; on these, the growth of the stool forming grasses and Kudzu has been extremely poor. On the other hand, wherever Toco Grass has been planted, it has grown well and it is hoped that during the 1956 wet season it will be possible to extend its planting considerably.

227. *O'Meara Savannah*—Here also the growth of Toco Grass, which was planted in 1954, was most encouraging and a further six acres were planted. In addition, a trial plot of approximately $\frac{1}{4}$ acre was established in Pangola Grass.

Soil Survey

228. A detailed survey of the Caroni Swamp commenced in late 1954 and was completed in April. This work was undertaken to assess the suitability of the swamp for development for rice cultivation.

229. The survey of Southern Trinidad was continued in the Erin area. Approximately 8,000 acres were completed.

230. The soil survey of Tobago was resumed in November. Work continued until the end of the year when the survey was temporarily halted to await the completion of an aerial survey expected early in 1956.

231. Advisory work was carried out for a number of Estates.

232. Five thousand seven hundred and fifty-two analyses were completed in the Soil Laboratory during the year. This figure is made up as follows :—

Soil analyses	2,789
Sugarcane analyses	1,900
Foliar	228
Run-off investigation	590
Miscellaneous	245
Total analyses	5,752

Soil Conservation

233. Run-off trials at L'Esperance, Central Experiment Station, for the assessment of run-off and soil loss under different types of vegetal cover continued in their third year of observation (See Table XXI). The broad indications, so far, for the particular soil type on which these plots are established are that :—

(*a*) the presence of litter produced from weedings, trash, &c., in sufficient quantity, has the effect of reducing run-off and erosion to negligible proportions even when the crop cover is poor;

(*b*) complete exposure of the soil surface results in very high rates of soil loss in spite of the relative rapidity of water intake by the soil.

234. The study of run-off and erosion on highly cambered beds on level land, under sugarcane, continued through its second year at El Carmen, Central Experiment Station. Data for the first year (1954), only, are given in Table XXII. These indicate an extremely low rate of soil loss.

235. Collection of run-off data from plots at the Rio Claro Demonstration Station continued. These trials were planned to indicate whether or not large differences in erosion and run-off rates occur under the opposing systems of "up and down hill" and contour cultivation of sugarcanes on sloping land.

236. Observations, so far, indicate that when an appreciable vegetal cover has been established, this together with litter and trash produced by the first weeding has the effect of keeping erosion at a low potential, irrespective of the system of cultivation.

237. Two years of records are now available from the Brickfield and Five Rivers watershed trials. In these trials, the run-off characteristics of natural forest, teak forest (established and in process of establishment), shifting cultivation and conservation farming are under investigation. The Forestry Department is cooperating actively in the forest studies.

238. The Land Use Demonstration at Maracas Land Settlement is still in process of development. Satisfactory progress was made during the year. Students of the Eastern Caribbean Farm Institute visited the area for instructional purposes.

Agricultural Engineering

Departmental Equipment

239. In spite of a slow start made at the beginning of the year, most dry season cultivation work at the Central Experiment Station was completed on time. A small amount of land clearing and development work, requiring the use of heavy equipment, was carried out.

240. In the rainy season there was a general reduction in the use of field equipment. Minor field work and transport were maintained. During that time, every effort was made to carry out all necessary overhauls, major repairs, and construction work by the machine shop.

241. General servicing and maintenance of equipment were carried out satisfactorily.

Field Engineering

242. *Irrigation*—Provision has been made for irrigating the fodder on sections of the St. Joseph and Tobago Farms and to carry out irrigation trials within such areas. During the year, careful study was made of the areas concerned and plans were drawn up for installing sprinkler systems.

243. In Tobago, it is planned to have up to 55 acres of grass under irrigation. The flood irrigation of the seven acre field, which has been practised for some time, will be discontinued in favour of sprinkling. This will enable the somewhat limited water supply to be more efficiently used over a larger area.

244. Observations will be made on the response of the different grasses to water and fertilizer application. During that time, also, it is hoped to gain more information on the water supply, should a cause for extension arise.

245. At the St. Joseph Farm, a controlled plot experiment is planned to obtain more precise information on the response of elephant grass (*Pennesitum purpureum*) to sprinkler irrigation. The trial is being laid in a small field and consists of six randomised blocks with the main treatments of different water application rates split for fertilizer application. Briefly, the trial will compare some practical methods of forecasting plant water requirements for this area and assess the returns from supplemental irrigation.

246. Equipment was not available for the work to be started in the dry season of this year. However, observations and measurements were made on the uniformity of the grass stand.

247. In addition to the trial laid down, it is planned to have up to 60 acres of grass under irrigation.

248. *Structures*—During the year there was no major work on farm buildings. Some attention was given to designing small drying sheds which can be readily erected by the small holder to enable improved crop drying methods.

249. *New Machines*—The most notable among new Agricultural Machines, introduced for use in these parts during the year, are the ultra low volume sprayers popularly known as mist blowers. So far, three different trade marks have appeared on the market and observations on their performance under local conditions were carried out on some models. The small shoulder mounted models have shown considerable promise for crop spraying in these parts and may solve many plant protection problems hitherto insoluble. These low volume sprayers were used chiefly on bananas and in a few cases on cacao and citrus.

Apiculture

250. Honey production was better this year, for 30,187 lb. were exported, compared with 27,499 lb. in 1954. The price of honey varied from $6.00 to $12.00 per tin of 56 lb. nett, and that of beeswax from 84 cents to $1.00 per lb. Honey was retailed at a fairly steady price of 30 to 36 cents per one pound bottle.

251. The Beekeepers' Co-operative Society, formed in 1954, shows promise of success. Five tons of honey were exported during the year at a small profit. The Society has, also, secured a firm contract for the 1956 crop. In addition, a plot of land at St. Joseph is being leased from Government and arrangements are being completed for the erection of a packing shed on this site for handling the 1956 crop. The Inspector of Apiaries continues to function as Secretary-Manager of the Society.

252. As far as is known, there were no infectious diseases of bees in the Colony. Many hives were, however, lost by the infestation of wax moths towards the end of the rainy season when colonies were weak because of low food supplies. Hunting ants were, also, responsible for some damage to apiaries.

253. During the year, the Departmental Apiary at the Botanic Station, Tobago, was transferred to Mt. St. George Station. The apiary at Louis d'Or Station was re-sited. Other Departmental Apiaries were maintained at the Central Experiment Station and at El Reposo, La Pastora, Rio Claro, Penal and St. Augustine. A total of 126 colonies have been established on all Stations.

254. Fully equipped honey houses have been built at the Central Experiment Station and at El Reposo. Honey extractors have been supplied to Penal and Rio Claro. These are for the use of local beekeepers with inadequate equipment, for the extraction of their honey.

255. Twenty-five pure-bred Italian Queens were imported towards the close of the year and are being kept at the headquarter Apiary of St. Augustine. These are destined to replace those queens imported in 1953 and from which 114 progeny queens were produced during 1954. Of these locally produced queens, 72 were used in Departmental apiaries and 42 were sold to eight beekeepers. As in 1954, unfavourable weather conditions prevented the rearing of queens during the latter half of the year.

256. The Inspector of Apiaries visited most of the beekeepers of the Colony during the year, paying extra attention to novices. Lectures on beekeeping were given to students of the Eastern Caribbean Farm Institute; to the senior class of the Caribbean Training College, Maracas; to pupils of certain elementary schools and to the Tobago District Agricultural Society. Demonstrations and displays were also given at the Annual Shows of the Beekeepers' Association and at the five Cane Farmers' Livestock Shows.

Animal Health

Incidence of Animal Diseases in the Caribbean

257. The Animal Diseases Reporting Service of the Caribbean Commission continued to operate during the year. The summary of notifiable diseases, as occurring in this Colony during the year, is shown in Table XXIII.

Legislation

258. The revised Animals (Diseases and Importation) Ordinance, 1954, came into operation on the 15th March, 1955.

259. Certain regulations made under this Ordinance also came into operation. These are to be found in the summary of Agricultural legislation.

Notifiable Diseases

260. *Paralytic Rabies (Bat-transmitted)*—The incidence of this disease was of a low order, only 22 cases were reported. It is, however, possible that a few cases passed unobserved.

261. Although this number of cases bears no comparison to that recorded in 1954 (270 cases), it should not be interpreted to mean that such a situation will continue and that the incidence of the disease is on the decline. Epidemiological study of this disease reveals that the reduction in the number of bats observed, during an outbreak in cattle, indicates that the disease, in the vector bats, is self-limiting. Accordingly, the length of time which bat colonies require to reach their original number can only be judged by the re-appearance of the disease in cattle, which usually shows a periodicity of from two to three years.

262. Protective vaccination, using the Flury strain of avianised modified live virus (Lederle), was continued during the year and the following classes of livestock were vaccinated :—

Cattle	*Water Buffalo*	*Horsekind*	*Goats*	*Sheep*	*Total*
7,441	344	1,055	940	—	9,780

During 1954, a total number of 20,012 animals were vaccinated.

263. The comprehensive proposals, which were submitted for the control of this disease, were approved in July, 1955.

264. These proposals call for the establishment of a joint committee, composed of representatives from the Department of Agriculture and Health, which committee, will be responsible for the formulation of control measures. A Veterinary Officer, who will receive special training in rabies control will be in charge of the field and laboratory work. In addition, a part-time Zoologist will also be available to carry out a study of the bat fauna and advise on methods of bat control.

265. The approved control programme is based on the application of a mass vaccination campaign of cattle throughout Trinidad in order to establish and maintain an immunised cattle population.

266. It was not possible to implement the programme during the latter half of 1955. However, it is expected that this will be done early in 1956, after the Veterinary Officer has received his training and the Zoologist has been appointed.

267. As from 1956, this Department will assume the field control of bats, a service which was formerly administered by the Health Department.

268. The Government Film Unit, in co-operation with the Department, concluded the production of a film on "Rabies". This was released in October and was shown to several audiences and should prove to be of high educational value in the general control programme.

269. *Swine Fever*—For the third consecutive year, the Colony remained free of this disease.

270. A total of 1,876 pigs was vaccinated as compared to 1,263 in 1954 and 1,458 in 1953.

271. All pigs sold by the Department were vaccinated prior to delivery.

272. *Newcastle Disease*—There was an increase in the number of outbreaks as compared to 1954. These did not, however, involve large numbers of birds. Poultrymen continue to carry out chickhood vaccinations and this is more or less a routine practice among the larger owners.

273. *Johne's Disease*—The existence of this disease in the Colony was established several years ago and there are sporadic cases from year to year. In view of the insidious nature of this disease, especially in dairy herds, a serological survey was initiated during the year on Departmental herds.

274. The Department was very fortunate in enlisting the aid of Mr. N. Hole, B.SC., M.R.C.V.S., of the Veterinary Laboratory, Ministry of Agriculture and Fisheries, United Kingdom, who kindly agreed to carry out the serological examinations. The results of these examinations are not yet available.

275. *Tuberculosis*—Table XXIV shows the numbers, classes and percentages of reactors to the tuberculin test carried out during 1953-55.

276. It is gratifying to record that there has been no deterioration in the position and that the incidence of the disease continues to be on a low scale. Under local health regulations, 2,731 dairy cows and heifers were tuberculin tested, of which five gave a positive reaction, a percentage of 0.18. Corresponding figures for 1954 were 2,761 tested, 11 reactors, a percentage of 0.4.

NON-NOTIFIABLE DISEASES

277. These did not differ in any significant way from those reported during 1954.

VETERINARY ATTENDANCE POLICE HORSES AND DOGS

278. The Veterinary Officer, North, carried out these duties in Trinidad during the year, when routine and special visits were made and professional services rendered. The Veterinary Officer, Tobago, carried out similar duties in that island.

VETERINARY PRACTICE SERVICE

279. This service, whereby certain Veterinary Officers undertake private practice as a service to rural livestock owners, continued in operation.

280. Four officers are involved in the Northern, Southern and Eastern districts of Trinidad and in Tobago. They made 646 calls and $1,738.95 in fees were paid into general revenue.

VETERINARY DIAGNOSTIC LABORATORY

281. This service was maintained during the year. The following specimens were handled :—

(i) Milk—Samples for

- (*a*) butter fat determination;
- (*b*) resazurin grading;
- (*c*) bacteriological examination;
- (*d*) phosphotase test.

(ii) Faecal examinations.
(iii) Serological tests.
(iv) Blood films.
(v) Poultry autopsies.
(vi) Rabies diagnosis.

INVESTIGATIONAL WORK

282. The amount of work carried out during 1955 was limited because of the substantive Veterinary Investigation Officer having to act as Deputy Director (Animal Husbandry) during the first half of the year, and then proceeding on overseas study leave in the latter half.

283. The following project was continued from 1954 and concluded :

Field Trials on the Suitability of Modified Live Virus Avianised Rabies, Vaccine (Lederle) in Farm Livestock other than Cattle.

284. The work on this trial, which was carried out in collaboration with Dr. Hilary Koprowski, Assistant Director, Viral and Rickettsial Research, Lederle Laboratories, was completed and may be summarised as follows :—

Numbers and Classes of Animals used :

Horses	*Mules*	*Goats*	*Sheep*
6	20	20	19

Treatment

(*a*) All of the animals were bled previous to vaccination in order to determine the existing, if any, anti body levels. Two out of the six horses had no anti bodies; 18 out of 20 mules had none; 11 out of 20 goats had none, and none of the sheep had any.

(*b*) All of the animals then received the M.L.V. avianised vaccine as follows :—

Horses :	Three—5 c.c.	I.M. in the hind leg
	Three—1 c.c.	I.D. in the neck
Mules :	Ten —5 c.c.	I.M. in the hind leg
	Ten —1 c.c.	I.D. in the neck
Goats :	Ten —5 c.c.	I.M. in the hind leg
	Five —1 c.c.	I.D. in the neck
	Five —1 c.c.	I.D. in the caudal fold
Sheep :	Ten —5 c.c.	I.M. in the hind leg
	Five —1 c.c.	I.D. in the neck
	Five —1 c.c.	I.D. in the caudal fold

I.M.—Intramuscularly, using a 20 per cent. suspension.
I.D.—Intradermally, using a 33⅓ per cent. suspension.

(*c*) All of the animals were bled thirty days after vaccination and tests carried out to determine the anti body levels.

Results

Horses—Two, which had no previous anti bodies, became immune.

Mules—Only two failed to develop anti bodies. All the remaining animals, including two which had some degree of immunity before vaccination, became immune.

Goats—Three of the 11 non-immune animals developed anti bodies following vaccination. The remaining eight were then revaccinated, as before, and their sera tested before and after revaccination. Unfortunately, six samples of the second batch of the pre-vaccination sera were unsuitable for test on arrival in the U.S.A. However, four of these animals showed presence of anti bodies after revaccination.

Sheep—Only four of these showed the presence of anti bodies after vaccination.

Conclusions

Mules and horses seemed to respond well to vaccination with the M.L.V. avianised vaccine. The same does not hold good for goats and sheep, however, and it would seem desirable to determine the presence of anti bodies in the blood of these animals with an actual field challenge.

285. *Feeding Trials Utilising Local Foodstuffs*—Three trials were laid down to test:—

(i) the feeding of citrus pulp in rearing steers;
(ii) the feeding of cacao pod meal to dairy cows;
(iii) the feeding of surplus bananas and fish meal to pigs.

286. A group of steers was selected for the citrus pulp feeding trial and divided into two such groups. One group was fed grass *ad lib*, and the other, grass *ad lib* plus citrus pulp, at the rate of 1 lb. per 100 lb. body weight.

287. Twelve dairy cows, whose stage of lactation was as close as possible, were selected. These were placed in three groups of four animals each. Three rations were used, a control and two treatments.

288. Four groups of three weaner pigs were selected from the same litter. Each group consisted of one boar and two gilts. Two rations were used, A and B. A—fish meal plus bananas fed *ad lib*. B—standard ration fed *ad lib*.

289. None of these trials was completed before the end of the year and will be continued during 1956.

Animal Husbandry

LIVESTOCK SHOWS

290. The following livestock shows were held during the year :—

(i) Six Cane Farmers' and Peasants' Shows;
(ii) The Tobago District Agricultural Society Show;
(iii) The joint show sponsored by the Trinidad Poultry Association, the Trinidad Goat Society and the Beekeepers' Association.

291. At these shows, representative animals from the Stock Farms were exhibited and improved methods of husbandry demonstrated.

Breed Improvement

292. Table XXV gives details of the services by selected sires at the Stock Farms and District Breeding Units in Trinidad and Tobago to privately owned female livestock. The services to Departmental owned female livestock at the stock farms, district breeding units and stations are not included in this table.

293. Routine sales, at the stock farms, of young bulls, bull calves, pigs, poultry, eggs for hatching and eating, culls and other undesirable types of livestock, continued as in 1954.

294. In order to ensure a more reasonable distribution of heifer breeding stock, it was decided to release 60 per cent. of those for sale under a scheme whereby approved peasant farmers were able to purchase these animals at their slaughter, as against market value.

295. The selected farmers were required to sign an agreement form embodying the conditions under which the heifer was to be maintained during the three-year term of such agreement.

296. Thirty-four grade Holstein heifers were thus distributed in 1955.

297. One auction sale was held when the following animals were sold :—

18 heifers
3 goats
2 colts
26 pigs
24 cockerels
12 ducks.

298. The total number of 52 heifers constitutes a record for this class of animal sold, in any one year, from the Stock Farms.

299. Comparative sales of livestock for 1954-55 at the Stock Farms are shown in Table XXVI.

300. An increased drive was made in the exchange of pure-bred for scrub cockerels among peasant poultry keepers. A total number of 594; 493 Rhode Island Reds and 101 White Leghorns were exchanged.

301. The following number and classes of livestock were imported by the Department for breeding purposes :—

Cattle—Two grade Holstein bulls from the Department of Agriculture, Barbados.

Sheep—Ten—one ram and nine ewes—Black Head Persian from the Department of Agriculture, Antigua.

Poultry—Two hundred and twenty White Rock day-old chicks—Canada.

The following numbers and classes of livestock for breeding purposes were exported from the Stock Farms :—

Cattle—One pure-bred Sahiwal Bull—Department of Agriculture, British Guiana.

Pigs—Seven large Blacks to Martinique; one Berkshire Boar to Antigua; six large Blacks and six Berkshires to St. Kitts.

Goats—One British Alpine buckling and one Anglo Nubian goatling to St. Kitts.

Poultry—Fifty White Leghorn chicks to Antigua.

302. Voluntary castration of scrub sires was encouraged and the following were effected :—

Bulls	*Boars*	*Rams*	*Bucks*	*Water Buffalo Bulls*	*Donkeys*
42	56	28	8	2	2

Artificial Insemination (Cattle)

303. After a cautious start to ascertain the reaction of cattle owners, it is gratifying to record that this service is now accepted and is proving to be very popular. As a result, there has been a significant increase in the number of inseminations as well as in the extension of the area covered.

304. To meet the growing demand, it has been necessary to train additional inseminators and to provide for a mobile unit in 1956.

305. During the year, a total number of 1,323 inseminations was made. The monthly distribution is given in Table XXVII.

306. At the St. Joseph Farm, 118 cows and heifers were inseminated up to 20th November, 1955, on which manual examinations for pregnancy were made. From this total 86 or 73 per cent. were pregnant. The average number of inseminations per pregnancy was 1.8 per cent.

307. It has not been possible to carry out pregnancy diagnosis on all other females inseminated, but as a result of limited examinations, calvings and non-return to service, it is estimated that approximately 70 per cent. of those inseminated proved to be pregnant.

Stock Farms

308. The three stock farms were maintained during the year and the comparative total livestock strength for the years 1954 and 1955 is given in Table XXVIII.

Cattle

309. At the St. Joseph Farm, an amendment in the breeding of the grade Holstein herd has been accepted as a result of a visit by Dr. T. P. Lecky, Senior Livestock Officer, Department of Agriculture, Jamaica, who visited the Farm in September, 1955.

310. Following his inspection of the herd and examination of the records, Dr. Lecky has laid down a breeding programme directed towards the establishment of a new dairy breed, based on the temperate Holstein and the tropical Zebu. This programme is framed on the principle that the basic material and the necessary genetic factors are already existent in the herd, but that these should be concentrated by careful selection and progeny testing in succeeding generations. By this means, it is hoped to evolve an animal breeding true to type and possessing a maximum degree of adaptability as reflected in milk production and fertility.

311. Consideration is now being given to ways and means of implementing Dr. Lecky's recommendation as far as possible in relation to the present resources, as well as giving attention to the broader aspects of the problem.

312. There was no change in the maintenance of a pure-bred Zebu herd and the crossing of pure-bred Holstein bulls on Zebu females.

313. The breeding policy for the Tobago Farm was amended to provide for :—

(*a*) maintenance of a pure-bred Sahiwal herd;

(*b*) the maintenance of a grade Holstein-Zebu herd for milk production;

(*c*) the maintenance of a Jamaica Red herd for beef production.

The main changes effected by this amended programme are : —

(i) the replacement of the Sahiwal as the recognised dairy breed by the grade Holstein-Zebu; and

(ii) the initial establishment of a beef herd in Tobago, where the potentialities of a beef industry are considered more favourable than that of dairying.

314. In view of the high value of the Sahiwal breed for foundation stock in future breeding work, a reduced herd of selected pure-bred animals is being maintained and the remaining females will be used for grading-up by the Jamaica Red bull.

315. The grade Holstein-Zebu now becomes the recognised dairy breed for Tobago and, in addition to the small herd at the Farm, service bulls, as soon as available, will replace the Sahiwals now stationed at the various Breeding Units.

316. A small unit of Jamaica Red cattle is being imported from Jamaica and should arrive early in 1956. As soon as this herd increases, bulls will be made available for service and breeding stock for sale to livestock owners.

317. The Department is deeply indebted to the Government of Jamaica for presenting a selected pedigree Jamaica Red bull to assist in the initial establishment of this breed in Tobago.

318. The breeding policy of the Central Experiment Station farm remained unchanged : —

(*a*) the breeding of grade Holstein-Zebu cattle for sale to cattle owners;

(*b*) the maintenance of a Water Buffalo herd.

319. A major change was made in the management of the dairy herd at the St. Joseph Farm. As from the latter half of the year, the animals were gradually turned outdoors during the day and night as against being only out during the night. The purpose of this change was twofold; firstly to reduce the cost of milk production, which is admittedly high, by making the animal cut its own grass during the day and night, and secondly, to render the animals more adaptable to local climatic conditions.

320. Another change which was made possible by the provision of more and better pasturage, was the reduction in the feeding of concentrates for the first gallon of milk produced.

321. As was to be expected, these changes did have an adverse effect on milk production, but it is anticipated that as soon as the animals become gradually adjusted to the new conditions, and as the quality of pasturage improves, that production will rise.

322. At the Tobago Farm, the herd, in keeping with the amended policy, has been divided into three sections; a small milking herd of grade Holstein-Zebu; another small herd of pure-bred Sahiwal and a third herd composed of the remaining Sahiwal, pure-bred and grade, and other foundation cows, all of which will be eventually headed by a Jamaica Red bull.

Milk Production

323. The main production continues to be at the St. Joseph Farm; while milk is produced at the other two farms, it is not considered as a major objective.

324. Total milk production amounted to 78,990 gallons, 53,971 gallons at St. Joseph Farm, 3,456 gallons at the Tobago Farm and 21,563 gallons at the Central Experiment Station Farm. This figure represents an increase of 4,054 gallons over 1954.

325. The sales of milk, consisting of the total farm production, surplus to that required for calf feeding, supplemented by purchases processed for resale, amounted to 94,527 gallons. This milk was distributed among hospitals, schools and other institutions. The figure represents an increase of 16,850 gallons over that for 1954.

326. The comparative milk production for the St. Joseph Farm over the years 1951/55 is shown in Table XXIX.

327. While efforts were made to maintain satisfactory milk yields, there has been a decrease in production as compared with that of 1954. However, yields were still considered as satisfactory in view of the concerted drive which was made to reduce production costs in the manner outlined. Moreover, the culling of unsatisfactory producers was reduced to a minimum in order to maintain a full complement of breeding females.

HORSEKIND

328. There was no change in the breeding policy at either the St. Joseph or the Tobago Farms, which was as follows:—

(1) the production of a general type of utility horse suitable for riding, light draft, and for the provision of a better type of mare for mule breeding;
(2) the breeding of light draft mules;
(3) the provision of selected jacks for mule and donkey breeding; and
(4) the stationing of a thoroughbred stallion for service as long as the present animal is available.

329. Very little use is being made of the two light draft stallions. Nevertheless, the Department continues to advocate their use by breeding a certain number of Farm mares and making the progeny available for demonstration and sale. Three very promising foals have been sired by the French Canadian stallion at the Tobago Farm and should be available for sale in 1956.

330. With the emphasis on mule breeding, the majority of Farm mares were bred to the selected jacks.

331. The remaining thoroughbred stallion was humanely destroyed in November, 1955.

332. Attention has also been directed towards donkey breeding and increasing numbers of janets are being maintained for breeding purposes.

333. Both of the in-foal janets imported from the United States of America, in 1954, foaled—a jack and a janet respectively.

334. The total strength at the 31st December, 1955 is shown in Table XXX.

PIGS

335. There was no change in the two breeds maintained, namely Large Black and Berkshire. Similarly, there was no major change in the management.

336. An exchange of service boars was effected between the two Farms to reduce the incidence of in-breeding.

337. The total number of pigs born was seven hundred and ninety-three (793)—698 Large Black and 95 Berkshire. Of this total, 31 were still born. The sex distribution of live births was 368 boars and 394 gilts.

338. The average litter size in the Large Black was nine (9) and eight (8) in the Berkshire.

339. The total pig strength at 31st December, 1955 is shown in Table XXXI.

GOATS

340. The maintenance of the two units at the Farms continued—British Alpine and Anglo-Nubian breeds were kept.

341. At the St. Joseph Farm, increased emphasis is being placed on both breeds; milk production and individual milk records are being maintained with selection and improved breeding as the objective. The selected does are housed in individual pens and hand served.

342. The system of management at the Tobago Farm is different, the objective here being the breeding of Anglo-Nubian goats for mutton rather than milk production. Accordingly, the herd is penned at night and grazed by day. A kidding season was established by running the buck with the herd in June—kids were born during the first half of November.

343. During the year, 65 kids were born—18 pure-bred British Alpine; two grade British Alpine; nine pure-bred Anglo-Nubian; 36 grade Anglo-Nubian.

344. The total goat strength at 31st December, 1955 is shown in Table XXXII.

SHEEP

345. The main work in this class of livestock is carried out at the Tobago Farm where the breeding policy was continued, namely the grading up of the ewes to the Barbados Black Belly ram.

346. There were a few changes made in the general management of the flock. The sheep have been kept in temporary housing throughout the year and have been free to graze day and night. At night, grazing has been in paddocks, secured by teak fencing, and during the day, free range with a shepherd. The success of this system is dependent on the continued rotation of the grazing paddocks so as to control the incidence of parasitism.

347. It was found that the moveable teak fencing was more satisfactory than a mobile electrical fence.

348. Another change was the restricted use of the ram so as to establish a lambing season. Although the number of lambings is less under this system, all lambs are born at the most favourable season of the year and young ewes are not served at their first heat period. The ram is put in with the flock in August/September so as to allow a January lambing. Another advantage of this system is that lambs born in January will be yearlings and ready for sale in December, just before the next dry season.

349. It was decided to effect a change in the 1956 breeding programme whereby three breeds will be maintained pure for the sale of breeding stock to the livestock public. These three breeds will be the Barbados Black Belly, Blackhead Persian and West African.

350. A small importation of Blackhead Persians was made from Antigua, a ram and ten ewes. These were maintained at the St. Joseph Farm but were to be transferred to the Tobago Farm early in 1956.

351. The total sheep strength at the end of the year was 112 head, composed of 10 rams, ewes, ram lambs and ewe lambs.

POULTRY

352. The extension and development of the poultry units within the Department are now receiving special attention and a Senior Agricultural Assistant (Poultry) is being appointed for this purpose.

353. In addition to the two breeds of Rhode Island Reds and White Leghorn a third has been introduced into St. Joseph Farm by an importation of day-old White Rock chicks from Canada in September 1955. This breed has been selected for carrying out trials in broiler production.

354. Egg production in the Rhode Island Red unit showed an improvement over 1954, while there was a reduction in the White Leghorn. The total egg production was 39,527 eggs.

355. There was a marked increase in the number of chicks hatched as compared with 1954—5,505 as against 3,180. This increase was made possible by the use of larger incubators at both farms, although these were not in use until the second half of the year.

356. The overall hatchability percentage at both farms was approximately 67 per cent.

357. An acute outbreak of Fowl Typhoid at the St. Joseph Farm was responsible for the death of 121 pre-adult and adult birds.

358. An outbreak of caecal coccidiosis, associated with unavoidable overcrowding, was also responsible for deaths amongst young chicks during August — September.

359. Routine vaccinations against Newcastle Disease and Fowl Pox were carried out.

360. The Muscovy duck units were maintained at both farms and the demand for ducks, both for rearing and table use, was very encouraging.

361. Two hundred and fifty-two ducklings were hatched.

362. The total poultry strength at the 31st December, 1955 is shown in Table XXXIII.

Pasturage, Fences, Buildings, Irrigation, Etc.

363. Routine maintenance of fences continued during the year. At the Tobago Farm, following clearance of abandoned lands, boundary fences have been laid around the areas and a start made on the division of paddocks, where suitable grasses will be established. At the St. Joseph Farm, a thirteen acre field was fenced.

364. No new buildings were erected. Minor works included remodelling of the piggery and conversion of a stallion box into a simple veterinary laboratory-drug store room at the Tobago Farm.

365. In addition to the maintenance of existing pastures, a certain amount of developmental work was carried out. Reference is made to this in the appropriate section of this Report.

366. Preparations were made for irrigation trials and this will also be found under the appropriate section.

367. The total revenue of the three Farms is included in the Revenue Table, XLV.

Land Settlement

368. *Development of New Areas*—The development of Land Settlements which started in 1953 with funds provided under the Colonial Development and Welfare Schemes as part of the present Five-Year Programme, continued.

369. On the Central Farms at El Recuerdo, Gordon Millar and Rio Claro, where field officers were housed, a total of 75½ acres of clonal cacao, 22½ acres of citrus, 14¾ acres of coffee and 15 acres of coconuts has now been planted and is being maintained. An additional 45 acres was cleared and prepared for planting in 1956. Twenty-eight tenants have been signed on at El Recuerdo, 15 at Gordon Millar and 30 at Louis d'Or.

370. Farm buildings were constructed and roads and reserves developed at Rio Claro and it is hoped that tenants will be selected and put into occupation in the new area early in 1956.

371. At Bamboo Grove No. 2 a few tenants who occupied their holdings early in the year have cleared and planted their lands, and two of these have erected permanent homes. Eight other houses are in the process of erection. Tenants at Louis d'Or have also been developing their holdings.

372. The Survey Department continued the laying out of holdings and roads at El Recuerdo and Rio Claro and, the construction of some of these roads was undertaken. Survey work is continuing on the El Recuerdo, St. Helena and Maracas locations.

Maintenance of Established Settlements

373. *Tenancies*—On the settlements already established, 69 tenancies were terminated and 40 of these holdings were re-allocated. Seventy-three new tenancies were created. The demand for land settlement holdings is greater than can be satisfied by those that become available for re-allocation.

Agricultural Development

374. The demand for clonal cacao and budded citrus plants continues on the established settlements where permanent crops may be grown. Market garden crops, ground provisions and other food crops were also cultivated. Weather conditions were, on the average, favourable for the cultivation of these crops.

Housing

375. There is still much activity on land settlements in the erection of houses by settlers who show their willingness to build in accordance with the regulations of the Local Health Authority. As a result, the use of Hollow Clay blocks and concrete is on the increase.

Social and Co-operative Development

376. Interest in the social and co-operative activities on settlements is being maintained. At Alandale a building to be used as a community hall is in course of construction by the settlers, and at Brooklyn and La Tosca, sites have been allocated for similar buildings, which are being financed, partly by Government Aid and partly by the settlers themselves. The Education Extension Service has been giving the necessary assistance in organising the settlers in this direction.

Revenue

377. The sales of produce and royalties from Crown reserves amounted to $23,608.03 during the year. This was an increase of $757.50 on earnings of the previous year which is due to the sale of produce salvaged from new areas under the Development Programme.

Fisheries Division

378. By the end of the year, the whole-time staff consisted of a Fishery Officer, a Fish Culturist, a Fishery Assistant (acting Skipper), four junior clerical staff, a fisherman, a caretaker and two labourers at Bamboo Grove Station.

379. During the year, full use was made of available personnel and equipment. Further activities were held in abeyance pending the appointment of staff to fill vacancies for which suitable candidates were not easily found.

380. The Standing Advisory Committee on Fisheries, which advises the Honourable Minister of Agriculture and Lands on general policy, met monthly under the Chairmanship of the Director of Agriculture.

Improvements to Fishing Beaches

381. The outstanding need for the whole of Trinidad is a modern fishing centre at Port-of-Spain, as Port-of-Spain fish market is the hub of the fishing industry of the whole of Trinidad, and no attempt to up-grade the industry as a whole can succeed until Port-of-Spain has a modern and sanitary fishing centre.

382. This need was formally acknowledged both by Government and by the Port-of-Spain City Council early in the year. In the absence of anyone with the necessary qualifications in Trinidad, it was agreed, on the recommendation of the Fisheries Committee, to apply to the Secretary of State for the Colonies for the services of an architect from F.A.O. By the end of the year it was learnt that this application could not be granted, but a further application will be made in 1956.

383. The funds voted for beach improvements for 1956 were allocated provisionally to Maracas Bay and Blanchisseuse, but, as circumstances arose to prevent work being done there, the money was diverted to Carenage and Cedros. At Carenage, the scheme of improvements started in 1954 was carried almost to completion. At Cedros, certain interim work was undertaken; but this very important fishery, the largest in Trinidad, is considered worthy of more careful consideration. The opinion of the F.A.O. Architect will therefore be sought, when he arrives, before details for a plan for development there are finally decided.

Investigations

384. During the early part of the year, the Fishery Assistant continued the pot fishing survey off Matelot, on the North Coast, which he initiated last year. Results were, unfortunately, less encouraging this year than last, and the fishery must be regarded as marginal.

385. The 28 foot aluminium alloy boat, which was ordered in 1954, was not delivered until October. A good deal of work had to be done on her in Trinidad to fit her out for fishing, and she was not in service by the end of the year.

Statistical Data

386. The collection of data at Port-of-Spain Market continued throughout the year, in collaboration with the City Council. These data are filed on cards at the Fishery Office, and a summary is plotted on a wall chart for quick reference. As Port-of-Spain Market handles fish from all over Trinidad, a most valuable indication of general trends is obtained, as well as a day to day record of the places of origin, species and prices of fish passing through the market. Several cherished popular beliefs, on which fishery policy might otherwise have been based, have already been shaken, and appear likely to be overthrown as figures for a longer period become available.

387. For the second half of 1955, figures were also collected at Carenage Fishing Centre, where fish is landed. Further extension of the collection of statistics was prevented by lack of suitable staff.

388. In general, after two good months in May and June, landings remained substantially lighter than those of 1954, and prices correspondingly higher.

389. The figures in Table XXXIV on fish at Port-of-Spain were obtained from the Fisheries Division records referred to above. Those in Table XXXV on San Fernando and Sangre Grande Markets were obtained from the respective Market Clerks. Those on imports of cured fish, in Table XXXVI were supplied by the Central Statistical Office.

Finance of the Fishing Industry

390. The ownership of fishing craft comes generally under two categories. The larger units are mostly owned by proprietors who remain ashore, and who may or may not have practical knowledge of fishing. Some of these capitalists own large fleets. Many small boats, on the other hand, are owned by fishermen, the majority of whom fish when fishing is good, or engage in agriculture when fishing is poor. Few, if any, owners combine the capital with which to buy modern equipment with the knowledge with which to operate it.

391. There are, however, a number of proprietors with some technical knowledge, who are anxious to pioneer new equipment, but who lack the capital with which to buy it. As a result, there are a number of improvised craft appearing, but most of these are so hampered by lack of capital that few ever get to sea.

392. Efforts will be made in 1956 to secure amendment of existing legislation to permit Government loans being made to fishermen.

Pond Culture of Fish and Fresh Water Fisheries

393. Early in the year, the St. Joseph River was widened, and a bank constructed between it and the Bamboo Grove Station, as part of a general flood abatement programme for the district. The danger of flooding is, therefore, thought to have been finally overcome.

394. The Fish Culturist then stocked the ponds at Bamboo Grove Station with hand-sexed male fish, in varying numbers to the acre, and fertilized the ponds in various ways. Well grown fish have been observed, but the ponds will not be harvested and the results known until the 1956 dry season.

395. Highly gratifying yields of Tilapia have been obtained by oil field personnel, who fish some of the large reservoirs with wire fish pots, catches of up to 110 lb. of fish per pot having been obtained. The largest fish weighed around two lb. As a result, requests for stocks of Tilapia for other dams have been received by the Fisheries Division.

Marketing Division

Local Market Conditions and Supplies

396. Compared with 1954, there was a decline in the supply of ground provisions both from local and Caribbean sources, with a resulting overall increase in prices. Sweet potatoes, during the period of scarcity, were retailed as high as 16 cents per lb. Green vegetables were, however, in satisfactory supply. Cabbages were plentiful at the height of the crop. Both dried and green pigeon peas were sold in fair quantities.

Guaranteed Prices

397. Government's guarantee to purchase certain food crops in unlimited quantities was extended for another year. The schedule of crops with the guaranteed minimum prices are given in Table XXXVII.

Purchases of Local Produce

398. The quantities of produce purchased by the Marketing Board in 1955 were substantially less than in the previous year. Unfavourable weather conditions again limited the corn crop severely, with the result that 1,648½ tons had to be imported to keep the market supplied. Comparative figures for the years 1953-1955 are given in Table XXXVIII.

Importations

399. Imports of all other food crops from other British West Indian territories decreased markedly. Imports of sweet potatoes, plantains and fruit showed a downward trend. Comparative figures are shown in Table XXXIX.

Shipments from Tobago to Trinidad

400. The quantities of produce shipped from Tobago to Trinidad fell by about one-third. All classes of produce showed a marked decrease. *See* Table XL.

Ground Provisions Depot

401. The value of the purchases by this retail section of the organisation increased from $138,735.00 in 1954 to $145,345.00 and the sales from $168,677.00 to $185,065.00.

Seeds and Planting Material

402. Sales of imported vegetable seeds in 1955 were considerably better than those for the previous three years. Sales of local planting material also increased due, largely to the provision of banana planting material of the Cavendish types. Figures for 1952-1955 are shown in Table XLI.

Sale of Fertilizers, Insecticides and Livestock Medicines

403. The following fertilizers were offered for sale at all depots—Sulphate of Ammonia, Superphosphate, Garden Fertilizer, Muriate of Potash and Banana Fertilizer. Sales continued to show a marked increase. Difficulty was again experienced in meeting the demand for Sulphate of Ammonia. In addition, a mineral oil was offered for sale at all Marketing Board Depots for use against Moko Disease in bananas. Livestock medicines continued to be offered for sale and the response to these products was, on the whole, satisfactory. Details of sales are shown in Table XLII.

Rice Offal

404. The amount of offal purchased from rice mills fell from 396 tons in 1954 to 140 tons. This was mainly due, to the increasing direct use by farmers of offal as a feeding stuff in spite of its high fibre content. The Marketing Board extracted 56 tons of rice bran and nine tons "brokens" from the offal purchased, and these were used in preparing animal rations.

Livestock Feeds

405. Sales of feeds surpassed the record level reached in 1954. The increase was spread over all feeds, with the exception of poultry rations. The increase in sales of pig ration was considerable, and reflected, in a large measure, the increased attention paid to the pig industry. During the year imported Premixes were incorporated in the Dairy, Pig and Broiler rations. Comparative data for the years 1953-1955 are given in Table XLIII.

Bananas

406. The Marketing Board undertook the importation and distribution of 54,000 banana plants on behalf of large scale growers. These were all of the Lacatan variety.

407. Forty-five thousand eight hundred and forty-six bunches of Gros Michel bananas were exported to the United States of America during the year.

408. Shipments of the Cavendish varieties totalling 23,074 bunches were made to the United Kingdom during the year.

Dehydrated Citrus Pulp Meal

409. The Marketing Board purchased 2,566 tons from the Co-operative Citrus Growers' Association. Sales amounted to 1,530 tons and 206 tons were incorporated in feeds.

Developments

410. *Mobile Units*—The system whereby mobile units carry farm supplies to areas, not in close proximity to depots, was maintained with encouraging results. The service was extended to Cedros.

411. *Improvements to the Factory at St. Joseph*—A trial run was made on the Hess Drier which proved satisfactory.

412. *Business Turnover*—The business turnover was greater than the previous year's and represented an increase of approximately 12 per cent. The value of the services rendered to producers is shown in Table XLIV.

Plant Quarantine

413. The following summary provides details of the Plant Protection work carried out by the two authorised ports of entry, Port-of-Spain (by sea) and Piarco (by air).

414. *Phytosanitary Certificates*—A total of 463 phytosanitary certificates were issued for the export of cut flowers, fruit, planting material, &c., under the Plant Protection Regulations (1953).

415. *Permits*—A total of 142 permits were issued for the importation of planting material, fruit, vegetables, &c., under the Plant Protection Regulations (1953).

416. *"Quantity"* of plants and plant products imported and inspected at Port-of-Spain*—Vegetables 296,890; Fruit 48,400; Miscellaneous Plant Material 1,463; Banana Suckers 1,250; Cotton 650; Seizures 107.

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*Quantity means number of bags, crates, items, &c., which vary in weight from less than one pound, to two hundred pounds.

417. *"Quantity"* of plants and plant products imported and inspected at Piarco*—Vegetables 454; Fruit 201; Miscellaneous Plant Material 102; Seizures 68.

418. Material which was seized and destroyed under the Plant Protection Regulations (1953) included:—

Port-of-Spain—Fruit, including apples, oranges, limes, bananas and sapodillas; dried herbs; sugarcane pieces; raw coffee; grass seed; rice seed; soil and miscellaneous plants growing in soil.

Piarco—Fruit, including apples, grapes, bananas, pineapples, oranges, portugals, mandarins, limes and sapodillas; miscellaneous plants growing in soil, including roses, lilies, coconuts and bananas; cut flowers; mistletoe; peppers; yams and raw coffee.

Production Sales and Distribution

419. A summary of the total quantity of planting material, crops and livestock produced by the Department and disposed of to the public for planting, breeding and consumption is provided in Table X.

Revenue

420. The Revenue collected by the various stations and divisions of the Agricultural Department amounted to $489,327.22. Details are given in Table XLV.

PUBLICATIONS

"Flora of Trinidad and Tobago", Vol. II (Lamiales, Myoporaceae, Verbenaceae, Avicenniaceae, Labiatae, Plantazinales). Price 75 cents (B.W.I. Currency).

"Notes on Vegetable Growing in Trinidad and Tobago", by Dr. B. G. Montserin. *Bulletin No. VII* (New Series).

"Regulations concerning the Importation of Animals, Animal Products, Fodder, Veterinary Biologics, &c." *Bulletin No. VIII (New Series)*.

"The Soils of Central Trinidad", by E. M. Chenery. pp. 43, 4 maps. Price $1.80 (B.W.I. Currency).

The following appeared in "Tropical Agriculture" :—

"A Rapid Method of Propagating Black Pepper", by St. G. C. Cooper (32:3, 207-209).

"Further Observations on a Trial of Trees as Shade for Cacao", by L. L. de Verteuil (32:3, 241-243).

The following appeared as supplements of the "Journal of the Agricultural Society of Trinidad and Tobago" :—

"Three Easily Constructed Units for Housing Livestock", by W. O. Bishop, D.I.C.T.A. (55:1, 133-137).

"Small Scale Farming in the Caribbean" (An address delivered to the Sixth Session of the West Indian Conference at Puerto Rico) by C. H. B. Williams, Director of Agriculture, Trinidad and Tobago. (55:2, 244-249).

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*Quantity means number of bags, crates, items, &c., which vary in weight from less than one pound, to two hundred pounds.

"Statistics of the Port-of-Spain wholesale Fish Market", by J. S. Kenny, Fish Culturist, Department of Agriculture. (55:2, 267-272).

"A Survey of the Freshwater Fishes of the Island of Trinidad", by J. L. Price, M.A., Ph.D. (55:3, 390-416).

FILMS

Agricultural Films produced during the year by the Information Office were entitled :—

"Banana Drive";

"It is No Mysterious Disease" (a film about Paralytic Rabies).

CONFERENCES, MEETINGS, TOURS, ETC.

Conferences and Meetings

The Department of Agriculture was represented at a number of conferences and meetings as shown below: —

Sixth Session of West Indian Conference, Puerto Rico—
Honourable V. Bryan, Minister of Agriculture and Lands—Delegate.
Mr. C. H. B. Williams, Director of Agriculture—Advisor.

1955 Cacao Conference, London—
Mr. E. A. Tai, Former Agronomist (Fruit Crops).
Mr. E. R. Moll, Chief Rehabilitation Officer.

The Fifteenth Horticultural Conference, Scheveningen, Holland—
Mr. E. A. Tai, Former Agronomist (Fruit Crops).

American Veterinary Medical Association Convention—
Dr. H. E. Williams, Veterinary Officer.

British Caribbean Advisory Council of Agriculture, Animal Health, Animal Husbandry and Forestry—
Mr. C. H. B. Williams, Director of Agriculture.
Dr. H. E. Williams, Veterinary Officer.

The Advisory Committee of the British West Indian Central Sugarcane Breeding Station—
Mr. C. H. B. Williams, Director of Agriculture.
Mr. D. M. Hanschell, Former Agronomist (Sugar).

Scholarships and Study Leave

The following officers were granted study leave :—

Dr. H. E. Williams, Veterinary Officer—Two years study leave to take Ph.D. degree in Veterinary Pathology at the University of Edinburgh.

Mr. G. F. Bally, Agricultural Assistant—study leave to take a course in soils at the British Columbia University.

Mr. S. Redman, Agricultural Assistant—Three years study leave to take B.Sc. in Agriculture at the MacDonald College.

Mr. J. S. Kenny, Fish Culturist—Eight months study leave to complete University degree at the University of Toronto.

Tours

The following tours were made by officers during 1955 :—

Mr. E. R. Cumberbatch, Senior Agricultural Assistant, was selected to undergo a training tour in soil conservation in St. Vincent.

Mr. L. G. Campbell, Agricultural Engineer, visited Barbados to study irrigation work.

Dr. B. G. Montserin visited Guadeloupe on a tour organised by the Caribbean Commission in connection with low volume spraying.

Mr. J. A. Spence, Plant Pathologist, also visited Guadeloupe to observe spraying methods in connection with banana leaf spot control.

STAFF

Promotions, recruitments, transfers and resignations from 1st January, 1955 to 31st May, 1956, are outlined hereunder : —

Name	*Post**	*Effective Date*
Promotions		
G. P. Blair ...	... Agronomist (Economic Botanist)	20. 3. 55
R. Barrie Smith	... Agronomist (Sugar)	31. 1. 56
D. M. Farrell	... Agricultural Officer	1. 1. 55
V. C. R. Henry	... Agricultural Officer	31. 1. 56
R. Moosai-Maharaj	... Agricultural Officer	20. 3. 56
L. Preudhomme	... Manager, Tobago Farm ...	1. 10. 55
I. E. Telfer ...	... Senior Agricultural Assistant ...	1. 1. 55
S. Bharath ...	... Senior Agricultural Assistant ...	10. 8. 55
C. C. Haqq ...	... Agricultural Assistant ...	1. 6. 55
Recruitments		
L. V. Butcher	... Veterinary Officer	12. 9. 55
A. P. Louisy ...	... Veterinary Officer	29. 5. 56
J. O. Slocombe	... Agricultural Assistant	1. 7. 55
E. P. Alleyne	... Agricultural Assistant	8. 8. 55
C. C. Applewhite	... Agricultural Assistant	8. 8. 55
T. W. A. Carr	... Agricultural Assistant	9. 1. 56
A. M. Greenhall	... Part-time Zoologist	1. 1. 56
C. H. Jop ..	... Rehabilitation Officer	23. 4. 56
Transfers		
L. Johnson ...	... Agronomist (Economic Botanist)	19. 3. 55 Transferred to Mauritius
Resignations		
E. A. Tai ...	... Agronomist (Citrus)	1. 1. 56
D. M. Hanschell	... Agronomist (Sugar)	31. 1. 56
M. A. LaChapelle	... Agricultural Assistant	22. 11. 55
H. H. Beach ...	... Agricultural Assistant	1. 5. 56
S. G. Achong	... Agricultural Assistant	1. 3. 56

*Post promoted to; recruited to; transferred from and resigned from.

	Date	Reference	Remarks
AGRICULTURAL CREDIT SOCIETIES			
Ordinance No. 33-1955, Agricultural Credit Bank (Amendment) Ordinance	27th August, 1955	Agricultural Credit Bank Ordinance, Ch. 23. No. 5	An Ordinance to amend the Agricultural Credit Bank Ordinance, Ch. 23. No. 5
COCOA			
Gazette Notice No. 83—Reappointments to Cocoa Board	6th January, 1955	Section 4 of the Cocoa Industry Ordinance, Ch. 23. No. 16	Director of Agriculture, Accountant General, E. V. Wharton, James Forbes, Frank Maingot, Professor C. Y. Shephard, J. A McDonald, Carl de Verteuil, Hon. H. E. Robinson and D. B. Murray appointed to serve as members
Gazette Notice No. 735—Appointment to act as member of Cocoa Board	5th May, 1955	Cocoa Industry Ordinance, Ch. 23. No. 16	Appointment of Mr. D. P. Hutton to act as member
Gazette Notice No. 1347—Cocoa Pool, 1954-55. Fixing of period	26th July, 1955	Exportation of Cocoa Ordinance, Ch. 23. No. 21 as amended by section (2) of the Exportation of Cocoa (Amendment) Ordinance, No. 24 of 1954	Cocoa Pool—1st September, 1954, to 31st August, 1955 fixed as period during which net proceeds of cocoa may be paid to Accountant General
Gazette Notice No. 1348—Cocoa Pool	26th July, 1955	Exportation of Cocoa Ordinance, Ch. 23. No. 21, as amended by section 2 of the Exportation of Cocoa (Amendment) Ordinance, No. 24 of 1954	Distribution for the period 1st September, 1954 to 31st August, 1955
FOOD CROPS			
Gazette Notice No. 1349—Guarantee to purchase certain food crops	2nd August, 1955	—	Guarantee to purchase certain food crops due to expire on 30th June, 1955, extended for a further period of 12 months
SUGARCANE			
Government Notice No. 35—Sugar Quotas Order, 1955	8th February, 1955	Sugar Quotas Ordinance, Ch. 23 No. 13	Sugar Quotas for various estates given
Gazette Notice No. 1151—Appointment as Chairman of the Cane Farming Arbitration Board	4th July, 1955	Section 11 (2) of the Production of Cane Ordinance, Ch. 23. No. 12	Mr. Justice E. M. Duke appointed as Chairman
Gazette Notice No. 1241, Sugar Industry Price Stabilisation Fund Committee	12th July, 1955	Regulation 7 (2) of the Sugar Industry (Price Stabilisation) Regulations, 1951-1953	Appointment of Mr. P. C. MacIntyre to act as member of the committee

	Date	Reference	Remarks
SUGARCANE—*Continued*			
Gazette Notice No. 1242—Sugar Industry Rehabilitation Fund Committee	12th July, 1955 ...	Regulation 7 (2) of the Sugar Industry (Rehabilitation Committee) Regulation	Appointment of Mr. P. C. MacIntyre to act as member of the Committee
Gazette Notice No. 1822—Cane Farming Arbitration Board	10th November, 1955 ...	Section 11 (2) of the Production of Cane Ordinance, Ch. 23. No. 12	Nomination of persons to the panel of the Cane Farming Arbitration Board with effect from 18th October, 1955
Gazette Notice No. 1999—Sugar Industry Labour Welfare Committee	23rd November, 1955 ...	Sugar Industry Special Funds Ordinance, Ch. 23. No. 14, Section 8	Re-appointment of the Hon. Ashford Sinanan as member of the Committee
ANIMALS (DISEASES AND IMPORTATION)			
Government Notice No. 174—Proclamation No. 3 of 1955	15th January, 1955 ...	Animals (Diseases and Importation), Ordinance 1954 (No. 19 of 1954), (Government Notice No. 14 of 1955)	15th March, 1955, appointed as day of coming into operation of Animals (Diseases and Importation) Ordinance, 1954
Government Notice No. 15—Animals (Diseases and Importation) Ordinance, 1954	18th January, 1955 ...	Section 12 of the Animals (Diseases and Importation) Ordinance, 1954	Order made by the Governor in Council under section 12 of the Animals (Diseases and Importation) Ordinance to be cited as the Disease (Addition to Schedule) Order, 1955
Government Notice No. 27—Animals (Importation) Control Regulations, 1955	18th January, 1955 ...	Section 15 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 15 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as the Animals (Importation) Control Regulations, 1955
Government Notice No. 28—Anthrax Regulations, 1955	28th January, 1955 ...	Section 13 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 13 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as the Anthrax Regulations, 1955
Government Notice No. 29—Swine Fever Regulations, 1955	28th January, 1955 ...	Section 13 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 13 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as the Swine Fever Regulations, 1955
Government Notice No. 30—The Epizootic Abortion Regulations, 1955	28th January, 1955 ...	Section 13 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 13 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as the Epizootic Abortion Regulations, 1955

	Date	Reference	Remarks
ANIMALS—*Continued*			
Government Notice No. 27—Animals (Diseases and Importation) Ordinance, 1954 (No. 19 of 1954)	28th January, 1955 ...	Section 15 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 15 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as Animals (Importation) Control Regulations, 1955
Government Notice No. 60—Foot and Mouth Disease Regulations, 1955	15th March, 1955 ...	Section 13 of the Animals (Diseases and Importation) Ordinance, 1954	Regulations made by the Governor in Council under Section 13 of the Animals (Diseases and Importation) Ordinance, 1954, to be cited as the Foot and Mouth Disease Regulations, 1955
FISH			
Ordinance No. 17—1955 ...	23rd April, 1955 ...	Fishing Industry (Assistance) Ordinance, 1955	An Ordinance to make provision for the granting of assistance to the Fishing Industry
WILD ANIMALS AND BIRDS			
Government Notice No. 138—Wild Animals and Birds (Game Wardens) (Amendment) Regulations, 1955	23rd August, 1955 ...	Wild Animals and Birds (Protection) Ordinance, Ch. 25. No. 7	Regulations made by the Governor in Council under Section 24 of the Wild Animals and Birds (Protection) Ordinance to be cited as the Wild Animals and Birds (Game Wardens) (Amendment) Regulations, 1955
Government Notice No. 16—Poultry (Application of Ordinance) Order, 1955	18th January, 1955 ...	Animals (Diseases and Importation) Ordinance, 1954	Order made by the Governor in Council under Section 25 of the Animals (Diseases and Importation) Ordinance, 1954 to be cited as Poultry (Application of Ordinance) Order, 1955
Gazette Notice No. 1077—Hunting and Shooting of Certain Birds Permitted	20th June, 1955 ...	Wild Animals and Birds (Protection) Ordinance, 1953 as amended by the Wild Animals and Birds (Protection) (Amendment) Ordinance, 1941	Hunting and Shooting of Ramier of all kinds and Cocrico permitted from 1st July to 31st December
BOTANIC GARDENS			
Government Notice No. 18—Botanic Gardens (Amendment) Regulations, 1954	14th January, 1955 ...	Botanic Gardens Ordinance, Ch. 24. No. 2	Regulations made by the Governor in Council under Section 4 of the Botanic Gardens Ordinance to be cited as the Botanic Gardens (Amendment) Regulations, 1954

Table I—Annual Rainfall, Trinidad and Tobago

Station	Total 1955, Inches	Mean—24 Yrs. Inches
North Trinidad:		
River Estate, Diego Martin	80.14	75.86
St. Clair, Port-of-Spain	78.04	66.50
La Pastora, Santa Cruz	99.12	84.71
I.C.T.A., St. Augustine	76.94	68.85
Meteorological Station, Piarco	77.51	69.66
Frederick Estate, Caroni	75.81	78.34
Torrecilla Estate, Arima	92.45	93.89
Works and Hydraulics, Toco	64.28	71.55
Hollis Reservoir, Valencia	116.82	121.03
Sans Souci Estate, Sangre Grande	119.79	111.56
Central Trinidad:		
Waterloo Estate, Waterloo	73.45	65.33
Cocoloco Estate, Todds Road	77.74	76.88
Tamana Teak Plantation	106.42	114.33
McBean Estate, Couva	83.54	65.25
Forres Park Estate, Claxton Bay	73.12	61.70
New Lands Estate, Biche	107.90	106.28
Marper Farm, Manzanilla	104.58	102.34
Brasso Tamana Road	89.49	103.94
Cocal Estate, Nariva	82.19	—
South Trinidad:		
Brothers Estate, Williamsville	81.70	81.65
Usine Ste. Madeleine, San Fernando	74.37	68.36
Perseverance Estate, Cedros	57.08	59.05
Poole Syndicate, Rio Claro	102.90	108.27
Navet C.M. School, Rio Claro	58.22	—
Point Fortin Filtration Plant	80.13	79.61
T.L.L., Barrackpore	72.22	72.26
Mayaro Police Station, Mayaro	49.51	82.40
Moruga Police Station, Moruga	68.10	72.18
T.L.L., Guayaguayare	78.19	89.82
Siparia Old Road, Fyzabad	74.38	67.68
Tobago:		
Botanic Gardens	62.13	78.98
Government Stock Farm	56.63	69.31
Friendship Estate	46.28	61.87
Hermitage Estate	85.73	95.98
Green Hill Estate	79.49	84.18
Kendal Estate	110.31	122.66

Table II—Mean Monthly Rainfall, Trinidad and Tobago

Month	1955, Inches	24-Year Mean, Inches
January	2.9	4.6
February	3.1	3.3
March	3.2	2.3
April	1.8	2.8
May	2.3	6.0
June	12.3	10.1
July	12.2	9.9
August	8.4	10.5
September	8.9	7.8
October	8.8	7.6
November	11.9	9.0
December	5.2	8.9
	81.0	82.8

Table III—Imports of Specified Commodities—1955

Items		Caribbean		Non-Caribbean	
		Quantity	Value	Quantity	Value
			$		$
Live animals chiefly for food	only ...	27,790	87,410	10,137	4,777
Meat, fresh, chilled or frozen	lb. ...	2,000	—	8,327,000	3,922,000
Meat, dried, salted or smoked, not canned	lb. ...	12,000	8,000	4,707,000	1,908,000
Meat, canned and meat preparations, canned and not canned	lb. ...	4,000	3,000	2,460,000	1,701,000
Milk and cream, fresh	lb. ...	—	—	13,000	5,000
Milk and cream, evaporated, condensed or dried	lb. ...	—	—	20,237,000	6,902,000
Butter	lb. ...	—	—	2,323,000	1,728,000
Eggs in the shell and other	— ...	—	—	—	245,000
Rice	lb. ...	41,389,000	4,723,000	—	—
Maize (corn) unmilled	lb. ...	—	—	72,150,000	464,000
Meal and flour of wheat	lb. ...	—	—	118,840,000	10,290,000
Meal and flour of maize (and of cereals, n.e.s. (negligible))	lb. ...	—	—	1,081,000	111,000
Fresh and dry vegetables, roots and tubers	lb. ...	6,540,000	300,000	43,189,000	3,173,000
Fruits and nuts, fresh	lb. ...	1,999,000	143,000	2,381,000	698,000
Fish, fresh, chilled or frozen	lb. ...	56,200	25,329	—	—
Cod Fish (salted fish)	lb. ...	—	—	6,156 ,302	1,874,301
Other fish (salted, dried or smoked)	lb. ...	—	—	866,419	262,201
Fish, canned	lb. ...	—	—	1,376,771	838,088

Table IV—Agricultural Exports, Trinidad and Tobago, 1955

Item	Quantity	Value	Value
		$	$
gar and By-Products			
Sugar (unrefined) ... ...cwt. ...	3,387,037	30,731,407	
Sugar (refined) ... ...lb. ...	71,723	9,620	
Molasses, inedible (raw) ...cwt. ...	480,880	458,509	31,199,536
cao			
Cacao beans ... ...cwt. ...	146,962	11,773,390	
Cacao butter ... ...lb. ...	56,520	58,156	
Cacao powder ... ...lb. ...	2,978	1,675	11,833,221
trus			
Lime juice (raw) ... ...liq. gal.	4,070	2,873	
Lime Juice (concentrated) ...liq. gal.	555	1,859	
Limes, fresh ... ...lb. ...	8,338	1,277	
Grapefruit, fresh ... ...lb. ...	11,754,150	729,658	
Oranges, tangerines and mandarins ... ...lb. ...	4,872,637	323,185	
Canned grapefruit juice ...liq. gal.	1,096,797	1,347,375	
Canned orange juice ...liq. gal.	262,830	465,112	
Canned orange and grapefruit juice, mixed ... ...liq. gal.	30,864	42,497	2,913,836
nca Beans			
Tonca Beans ... ...lb. ...	119,176	157,200	157,200
bber			
Rubber, raw ... ...lb. ...	15,780	10,501	10,501
ffee			
Coffee, raw ... ...cwt. ...	28,505	1,727,264	1,727,264
conuts and Derivatives			
Coconut oil (unrefined) ...lb. ...	—	—	—
Coir fibre ... ...lb. ...	236,895	17,223	—
Copra ... ...cwt. ...	75,743	1,101,310	1,118,533
getables			
Vegetables, fresh and dry ...lb. ...	469,610	125,204	—
Peas, beans, lentils, &c. ...lb. ...	20	7	125,211
esh Fruit, Other Sorts			
Fresh fruit, other sorts ...lb. ...	4,872,637	323,185	—
Bananas ... ...bunches	68,920	150,295	473,480
estock and Hides			
Live animals, chiefly for food ...	1,476	2,426	
Live animals, other than for food	692,932	87,477	—
Hides ... ...lb. ...	15,044	2,381	92,284
ney			
Natural Honey ... ...lb. ...	30,208	6,500	6,500
lk			
Milk and cream, fresh ...lb. ...	24,522	4,197	4,197
ices			
Nutmeg ... ...lb. ...	35,495	13,907	
Mace ... ...lb. ...	900	1,197	
Pepper and Pimento ...lb. ...	65	39	
Ginger and other spices ...lb. ...	15,432	7,439	22,582
TOTAL			49,684,345

Table V—Exports of Manufactured Agricultural Products—Trinidad and Tobago, 1955

Item	Quantity	Value	Value
		$	$
Sugar and By-Products			
Rum ... ...p. gal.	328,401	1,170,998	—
Syrup and molasses ... ...lb. ...	10,748,636	76,520	1,247,518
Citrus			
Lime oil (distilled) ...lb. ...	5,408	39,262	39,262
Coffee			
Coffee (prepared) ... ...lb. ...	29,774	30,324	30,324
Coconuts and Derivatives			
Coconut oil (refined) ...lb. ...	2,585,936	731,368	—
Lard substitute ... ...lb. ...	144,983	53,685	785,053
Vegetable and Animal Products			
Margarine (vegetable, animal or mixed) ... ...lb. ...	935,623	373,285	—
Other sorts of lard substitute lb. ...	71,788	25,655	398,940
Soap			
Acid, fatty and solid oils, including Stock Soap ...lb. ...	—	—	—
Hard Soap ...lb. ...	845,567	157,562	157,562
Bitters			
Bitters ... ...liq. gal.	55,453	658,234	658,234
Jam, Marmalade and Fruit Jellies			
Jam, marmalade and fruit jellies ... ...lb. ...	8,225	2,245	2,245
Wine			
In bottle ... ...liq. gal.	6,021	13,925	—
In wood ... ...liq. gal.	3,027	6,014	19,939
			3,339,077

Table VI—Trinidad Crop Statistics—Sugar

	1955	1954
Estates' Canes ground, tons	1,183,687 (64.76%)	1,111,470 (66.96%)
Farmers' Canes ground, tons	644,036 (35.24%)	548,322 (33.04%)
Total Canes ground, tons	1,827,723	1,659,792
Sugar output, tons	192,793	172,765
Tons cane per ton sugar	9.48	9.61
Estates acreage reaped	39,001	37,309
Estates canes reaped, tons	1,183,687	1,111,470
Average cane yield per acre, tons	30.35	29.79

Table VII—Farmers' Canes Ground and Prices Paid, 1952-1955

Year	Tons	Price per Ton
		$
1952	355,081	10.86
1953	451,036	11.36
1954	548,322	11.81
1955	644,036	11.97

Table VIII—Exports and Value of Raw Cacao, Trinidad and Tobago

Year	Exports	Value
	lb.	$
1950	16,197,928	8,360,678
1951	19,316,640	11,563,270
1952	14,087,360	8,237,141
1953	21,684,496	11,720,925
1954	17,640,784	15,047,820
1955	16,459,744	11,773,390

Table IX—Output of Fresh Fruit and Canned Products—Co-operative Citrus Growers' Association

	Grapefruit	Orange	Blended
(a) Juice produced in 1955—Cartons, A2 Cans ...	436,732	102,813	18,731
(b) Juice sold locally in 1955—Cartons, A2 Cans ...	84,944	16,140	7,487
(c) Juice exported in 1955—Cartons, A2 Cans ...	359,832	88,860	10,005
(d) Fresh Fruit exported in 1955—Crates	147,554	8,026½	Nil

Table X—Production, Sales and Distribution, 1955

	Consumption Sales		Planting or Breeding Sales	
	Number	Unit	Number	Unit
Crops				
Avocadoes	1,994	lb.	12,566	plant
	4	only		
Breadfruit	578	lb.	—	,,
Cacao	129,937	lb.	—	,,
Coconuts	67,792	only	181	,,
Coffee	10,847	lb.	1,536	,,
Grapefruit	392,074	plant	23,471	,,
King Oranges	2,142	only	—	,,
Lemons	5,129	only	587	,,
Limes	4,383	lb.	5,462	,,
	4,312	only		
Mangoes	2,275	only	7,399	,,
Oranges	910,522	only	68,295	,,
Bananas	235,399	lb.		
	132	bunch		
	301	plant	44,417	,,
Plantain	4,883	sucker	1,146	,,
Other Fruit Trees	—	—	7	,,
Portugals	2,064	only	1,081	,,
Tangerines	—	—	9	,,
Beans	97	lb.	—	—
Cassava	17,448	lb.	147	cutting
Dasheen	621	lb.	—	—
Eddoes	—	—	—	—
Grass—Elephant	2,000	lb.	1,700	lb.
Guatemala	400	lb.	2,150	lb.
Khus Khus	—	lb.	—	lb.
Kudzu	177	lb.	186	lb.
Maize (corn)	7,698	cob	—	,,
	24,859	lb.	256	,,
Melons	—	lb.	4	,,
Peas—Pigeon	2,520	lb. seed	—	lb. seed
Peas—Other	1,059	lb.	146	lb.
Pumpkins	324	lb.	—	lb. seed
Rice	7,513	lb.	—	lb.
	86,981	lb. paddy	99,699	lb. paddy
Sugarcane	—		104,347	cuttings
Sweet Potatoes	968	lb.	—	lb.
Tannias	2,057	lb.	—	lb.
Timber	13,204	cub. ft.	—	cub. ft.
Vegetable (fresh)	117,416	only	—	—
Vegetable Seedlings	19,136	lb.	—	—
Vegetable Seedlings (boxes)	—	box	10,208	box
Yams	67,265	lb.	—	—
Lettuce	14,717	head	—	head
Bene		lb.		lb.
Copra	53,885	lb.	—	lb.
Ornamental Seedlings (boxes)	—	box	8,220	box
Palms and Ornamental Shrubs	—	only	52,487	only
Trees	159	only	10,183	plant
Timber Boards	19	ft.	—	—
Stockfeed and Agricultural Material				
Citrus Pulp Meal	3,169,456	lb.	—	lb.
Dairy Feed	1,186,597	lb.	—	lb.
Growing Mash	514,303	lb.	—	lb.
Laying Mash	703,834	lb.	—	lb.
Pig Ration	2,638,694	lb.	—	lb.
Scratch Grain	1,272,138	lb.	—	lb.
Chlordane	2,767	pint	—	pint
Fertilizers	818,358	lb.	—	lb.

Table X—Production, Sales and Distribution, 1955—*Continued*

	Consumption Sales		Planting or Breeding Sales	
	Number	Unit	Number	Unit
Cattle				
Bulls	9	head	2	head
Cows	10	,,	21	,,
Steers	4	,,	—	,,
Bull Calves	15	,,	60	,,
Heifers	7	,,	57	,,
Beef	5,596	lb.	—	lb.
Milk	95,245	gal.	—	gal.
Horses				
Colts	—	only	2	only
Mules	1	only	—	only
Donkeys				
Jacks	—	only	1	only
Pigs				
Boars	26	only	234	only
Sows	34	only	146	only
Barrows	10	only	—	only
Gilts	—	only	97	only
Pork	3,040	lb.	—	lb.
Piglets	4	only	477	only
Sheep				
Rams	—	only	1	only
Ewes	4	only	2	only
Ram Lambs	1	only	1	only
Ewe Lambs	4	only	—	only
Goats				
Bucks	59	only	39	only
Does	5	only	18	only
Bucklings	1	only	2	only
Goatlings	2	only	3	only
Buck Kids	12	only	—	only
Doe Kids	—	only	1	only
Mutton	87	lb.	—	—
Rabbits				
Bucks	2	only	3	only
Does	2	only	14	only
Bunnies	28	only	53	only
Poultry				
Cocks	59	only	39	only
Hens	186	only	17	only
Pullets	64	only	134	only
Cockerels	262	only	38	only
Cockerels (exchange)	464	only	488	only
Chicks (unsexed)	96	only	1,271	only
Guinea Pigs	—	only	9	only
Dressed Poultry	112	lb.	—	lb.
Eggs	4,148	doz.	351	doz.
Drakes	11	only	33	only
Ducks	34	only	38	only
Ducklings	—	only	1,300	only

Table XI—Crown Lands recommended for Probationary Agreements and 25-Year Leases

		No. 1950-54	Acreage 1950-54 A. R. P.	No. 1955	Acreage 1955 A. R. P.	Total No. 1950-55	Total Acreage 1950-55 A. R. P.
Probationary Agreements	Recommended and executed	255	2,299 1 03	33	355 3 11	288	2,655 0 14
	Recommended and awaiting execution ...	—	—	131	605 0 15	131	605 0 15
25-Year Leases	Recommended and executed	34	831 1 34	7	106 0 0	41	937 1 35
	Recommended and awaiting execution ...	—	—	30	341 0 12	30	341 0 12
	TOTAL ...	289	3,130 2 37	201	1,407 3 39	490	4,538 2 36

Table XII—Sugarcane Varieties—Per Cent. of Total Acreage Reaped (Sugarcane Estates only) 1951 to 1955

Variety	1951	1952	1953	1954	1955
B. 3337	36.9	38.3	36.1	34.0	31.5
B. 37172	11.3	12.1	20.5	27.7	30.8
B. 37161	18.8	21.1	21.2	20.7	20.6
B. 34104	27.2	22.7	16.9	12.4	6.8
B. 41227	0.5	0.8	0.6	0.7	3.6
B. 4362	—	0.1	0.9	1.2	2.7
Others	5.5	4.9	3.8	3.3	6.0

Table XIII—Sugarcane Varieties—Per Cent. of Plant Cane Acreage Reaped (Sugar Estates only) 1955

VARIETY	PER CENT.
B. 3337	23.2
B. 37172	31.4
B. 37161	23.0
B. 34104	2.0
B. 41227	9.3
B. 4362	6.0
Others	5.1
TOTAL	100.0%

Table XIV—Distribution by Size of Estate, of Approved Applications for Cocoa Subsidy, 1953-1955

	At the end of 1953	At the end of 1954	At the end of 1955
States under 25 acres	1,652	2,449	2,898
States 25/50 acres	262	348	379
States over 50 acres	447	508	548
TOTAL	2,361	3,305	3,825

Table XV—Demand and Allocation—Clonal Cacao Plants

	1956	1955	1954	1953
Trinidad	2,079,288	1,540,203	1,159,280	851,287
Tobago	260,275	175,694	106,533	57,866
Allocation	947,503	713,096	550,702	483,257
Actual Distribution	—	654,219	484,094	400,709

Table XVI—Distribution to Planters—Composition by Varieties

	TOBAGO	TRINIDAD				COLONY AVERAGE		
		From La Pastora	From La Reunion	From Marper	From Estate Props.	1955	1954	1953
	%	%	%	%	%	%	%	%
CS. 1	15.77	.71	1.06	1.71	17.12	4.71	15.66	18.0
CS. 6, 8, 9 ...	3.68	4.00	.15	—	.04	2.11	3.84	2.0
CS. 39, 40 ...	6.59	8.75	4.96	—	2.51	5.90	7.59	6.0
CS. 60	1.05	4.30	.86	.06	.92	2.28	1.56	0.5
CS. 89	—	1.68	.10	—	1.18	.92	1.06	0.5
CS. 95	57.17	50.56	52.53	48.32	43.84	51.82	53.66	50.0
CS. 67	.52	19.10	21.64	35.32	21.97	21.45	11.26	10.0
Other Types (including Ps and PAs)	15.22	10.90	18.70	14.59	12.42	10.81	5.37	13.0

Table XVII—Manuring Subsidy

	No. Planters Supplied	Total Issued Tons
1952	123	292
1953	343	511
1954	525	748
1955	1,378	1,057

Table XVIII—Distribution, by Size of Estate, of Approved Application for Cocoa Replacements, 1953-1955

	At the end of 1953	At the end of 1954	At the end of 1955
Estates under 25 acres	1,493	1,933	2,022
Estates 25/50 acres	274	347	362
Estates over 50 acres	276	318	329
TOTAL	2,043	2,598	2,713

Table XIX—Comparison Methods of Propagation—La Pastora, 1955

	Station Total	*Method* 1 Conventional Closed Bins	*Method* 2 Rooting *in situ* Closed Bins	*Method* 3 Open spray Beds	*Method* 4 Continuous Humidifier
Amount Set	831,620	628,417	192,734	21,183	6,120
Amount Lost, Propagation ...	254,475	200,566	45,368	8,131	2,439
Amount Lost, Hardening	94,678	86,697	—	7,309	—
Amount Lost, Glass Houses ...	34,694	27,885	12,006	—	—
Amount Lost, Storage Sheds ...	44,341	29,125	10,332	—	—
Rooting Efficiency	69.4%	68.1%	76.5%	61.7%	69%
Production Efficiency	48.5%	45.2%	64.9%	—	—

Table XX—Distribution of Paddy, 1953-1955

Variety	1953 lb.	1954 lb.	1955 lb.
D 52/37	10,262	7,113	22,780
D 110	2,348	9,020	51,011
Sughandi	3,668	13,120	25,980
Hill Rice	—	—	—
Any other Variety (Specified) 85/42 ...	605	—	—
TOTALS	16,883	29,255	99,771

Table XXI—Run-Off Data for L'Esperance Run-Off Plots—1954

Nature of Cover on Plot	Length of Slope Ft.	Rainfall* Inches	Run-Off Inches	Run-Off %	Soil Loss Tons Ac.
Strip-cropped	104	59.51	17.60	29.57	10.80
Bare-fallow	104	59.51	20.55	34.59	82.25
Sugar Cane	104	59.51	2.81	4.73	1.63
Elephant Grass	52	59.51	14.12	23.60	15.45
Bare-fallow	52	59.51	13.67	22.90	60.19
Cassava-Tannia	52	59.51	2.27	3.79	5.60
Corn-Peas	52	59.51	4.53	7.58	15.47
Bush-fallow	52	59.51	2.82	4.72	0.26

SOIL TYPE: Las Lomas Sand. SLOPE: 21% TOTAL RAINFALL: 1954—83.22 ins.
* During period of observation.

Table XXII—Run-Off Data for El Carmen Run-Off (Sugarcane) Plots—1954

	Long Plot 300 ft.	Short Plot 150 ft.
Rainfall (inches)	35.79*	35.79
Run-Off (cu. ft.)	2,379.74	1,231.53
Run-Off (inches)	4.31	4.48
Run-Off (% of Rainfall)	12.04	12.59
Soil Loss (lb.)	56.91	40.19
Soil Loss (tons/ac)	0.16	0.23

Soil Type: Cunupia Clay Loam. Land Use: Sugarcane on high-cambered beds.
Slope: Level. Rainfall for 1954: 72.63
*During period of observation.

Table XXIII—Summary of Notifiable Livestock Diseases occurring in the Colony

Disease	
Brucellosis —Number of Cattle tested ... ... 33... ...	3% reactors
—Number of Goats tested	
Canine Distemper	4 cases
Fowl Typhoid	8 outbreaks
Johnes Disease	2 cases
Newcastle Disease	22 outbreaks
Piroplasmosis	1 case
Rabies (Paralytic)—Bat transmitted	22 cases
Tuberculosis—	
Number of Cattle tested ... ... 3,291... ...	0.4% reactors
Number of Water Buffalo tested ... 170... ...	3.5% ,,
Number of Dairy Goats tested ... ... 57... ...	0.0% ,,

Table XXIV—Numbers, Classes and Percentages of Reactors, to Tuberculin Tests 1953-1955

Class of Livestock	1953		1954		1955	
	No.	% Reactors	No.	% Reactors	No.	% Reactors
Cattle	3,386	1.0	3,249	0.4	3,291	0.4
Water Buffalo ...	581	14.5	—	—	170	3.5
Dairy Goats	16	0.0	93	0.0	57	0.0
Pigs	13	0.0	35	0.0	—	—
Poultry	350	0.0	—	—	—	—

Table XXV—Total Services by Selected Sires—1955

Class of Sire	Trinidad	Tobago	Total
Stallions—Thoroughbred	—	3	3
Light Draft	3	3	6
Jacks to Mares	18	22	40
Jacks to Janets	126	77	203
Bulls*	1,529	248	1,777
Water Buffalo	9	—	9
Boars	1,094	241	1,335
Bucks	1,297	275	1,572
Rams	—	119	119

*Does not include artificial insemination figures.

Table XXVI—Comparative Sales at Stock Farms, 1954-1955

Class of Animal	1954	1955	Increase	Decrease
Cattle	139	189	50	—
Horsekind	19	2	—	17
Pigs	417	516	99	—
Goats	47	30	—	17
Sheep	109	41	—	68
Poultry	1,988	2,077	89	—
Eggs	37,492	36,452	—	1,040

Table XXVII—Artificial Insemination—Monthly Distribution

Month	St. Joseph Farm	Breeding Units	Mobile Unit	Total
January	20	51	18	89
February	14	34	16	64
March	19	39	42	100
April	18	31	54	103
May	28	35	67	130
June	18	37	64	119
July	15	32	63	110
August	25	47	64	136
September	22	39	61	122
October	24	26	60	110
November	29	26	65	120
December	30	19	71	120
	262	416	645	1,323

Table XXVIII—Comparative Total Livestock Strength—Stock Farms—1954-1955

Class of Animal	1954	1955	Increase	Decrease
Cattle	643	610	—	33
Water Buffalo	10	16	6	—
Horsekind	70	78	8	—
Pigs	292	342	50	—
Goats	139	150	11	—
Sheep	102	112	10	—
Poultry	1,087	2,544	1,457	—

Table XXIX—Milk Yield—St. Joseph Farm—1951-1955

Year	Average No. of Cows Milked Daily	Total Annual Yield I.G.	Daily Average Yield per Cow I.G.
1951	60	553,364	25
1952	64	654,716	28
1953	66	574,333	24
1954	72	598,840	23
1955	69	553,219	22

Table XXX—Horsekind Strength on Stock Farms—31st December, 1955

Class of Animal	Number
Stallions—Light Draft	2
Mares	20
Fillies	4
Colts	3
Geldings	1
Mules	6
Mule Foals	2
Jacks	18
Janets	22
TOTAL	78

Table XXXI—Pig Strength on Stock Farms—31st December, 1955

Breed	Boars	Sows	Young Stock	Total
Large Black	16	41	214	271
Berkshire	22	6	43	71
TOTALS	38	47	257	342

Table XXXII—Goat Strength on Stock Farms—31st December, 1955

Breed	Bucks	Does	Total
British Alpine	38	20	58
Anglo Nubian	18	12	30
Grade Anglo Nubian	16	46	62
TOTALS	72	78	150

Table XXXIII—Poultry Strength on Stock Farms—31st December, 1955

Class and Breed	Cocks	Hens	Chicks	Drakes	Ducks	Ducklings
Rhode Island Red	49	345	1,507	—	—	—
White Leghorn	19	93	249	—	—	—
White Rock	—	—	209	—	—	—
Muscovy Ducks	—	—	—	10	27	45
TOTALS	68	438	1,965	10	27	45

Table XXXIV—Figures of Fish handled at the Port-of-Spain Fish Market during the Period—1st January, 1955 to 31st December, 1955

Locality	Weight in lb.	% of Total	Species	Weight in lb.	% of Total
Cedros	2,129,558	50	Carite and	2,676,849	62
Port-of-Spain	1,255,507	29	King Fish		
Carenage	240,002	6	Herring	128,683	3
Maracas	321,068	7	Cavalli	199,775	5
Blanchisseuse	63,227	2	Red	292,803	7
Matelot	646	—	Shark	299,649	7
San Fernando	35,797	—	Salmon	113,814	3
Couva	93,761	2	Paoua	58,840	1
Mayaro	55,303	1	Miscellaneous	543,873	12
Toco	73,652	2			
Miscellaneous	45,765	1			
TOTAL	4,314,286	100		4,314,286	100

Table XXXV—Fish handled at San Fernando and Sangre Grande Markets

SAN FERNANDO MARKET	...1,176,526 lb.
SANGRE GRANDE MARKET ...	... 159,154 lb.

Table XXXVI—Imports of Fish, Salted, Dried or Smoked but not Further Prepared, and Crustacea and Molluscs, Fresh, Chilled, Frozen, Salted, Dried, 1955

Country of Origin	Weight in lb.	Value in $ B.W.I.
Codfish		
United Kingdom	1,195,350	378,658
Canada and Newfoundland	4,943,472	1,488,658
British Guiana	700	756
Iceland	9,900	2,400
China	150	387
Norway	1,880	773
Western Germany	4,850	2,669
	6,156,302	1,874,301
Salmon and Trout		
Canada and Newfoundland	37,100	19,911
Ireland (Eire)	22	111
United States of America	108	286
Argentine	308	289
	37,538	20,597
Mackerel		
Canada and Newfoundland	3,025	839
Argentine	317	224
	3,342	1,063
Herrings		
United Kingdom	338,473	55,177
Canada and Newfoundland	225	37
British Guiana	340	367
Ireland (Eire)	280	106
Netherlands	27,905	4,841
Denmark	4,963	829
Japan	462	1,752
China	2,770	4,251
Norway	234,691	38,511
	610,109	105,871
Other Fish		
United Kingdom	58,212	19,925
Canada and Newfoundland	49,225	13,482
British Guiana	2,220	2,397
Hong Kong	410	510
Ireland (Eire)	3,251	706
United States of America	2,430	3,587
Denmark	276	259
Japan	2,310	3,774
China	6,330	10,455
Norway	450	74
St. Pierre and Miguelon	1,000	250
	126,114	55,413
Crustacea and Molluscs, &c.		
United Kingdom	2,240	748
Canada and Newfoundland	80	15
Union of South Africa	6	7
St. Vincent	2	150
St. Lucia	5,918	3,218
Antigua	30,604	14,333
Barbados	500	394
Hong Kong	7	27
United States of America	48,321	59,358
China	562	647
Surinam	1,040	1,034
	89,280	79,931

Table XXXVII—Guaranteed Minimum Prices for Locally-Grown Foods

	Price per lb.
Pigeon Peas, dry shelled	12 Cents
Black-Eye Peas, dry shelled	12 ,,
Soya Beans, dry shelled	12 ,,
Corn, dry shelled	5 ,,
Yams—Lisbon variety only	4 ,,
Sweet Potatoes	3 ,,
Tannias	3 ,,
Eddoes	1 ,,
Adlay, dry threshed grain	5 ,,
Sesame (or Bene)	12 ,,
Plantains—Fingers	4½ ,,
Plantains—Stems	4 ,,
Bananas—Gros Michel and Sucrier	1½ ,,
Bananas—Governor	1 ,,

Table XXXVIII—Quantities of Produce Purchased by the Marketing Board

	1953 Short Tons	1954 Short Tons	1955 Short Tons
Corn	877	205	118
Produce other than Corn	998	813	702
	1,875	1,018	820

Table XXXIX—Exports of Vegetables and Fruit from B.W.I. Territories

	1952 Short Tons	1953 Short Tons	1954 Short Tons	1955 Short Tons
Sweet Potatoes	1,178	2,425	3,478	2,073
Yams	20	—	102	16
Other Vegetables	731	118	201	153
Plantains	266	134	240	108
Tomatoes	Not recorded	33	29	Not recorded
Fruit	do.	872	1,392	799
	2,195	3,582	5,442	3,149

Table XL—Shipments of Food Crops from Tobago to Trinidad

	1952 Short Tons	1953 Short Tons	1954 Short Tons	1955 Short Tons
Bananas	32	55	73	24
Plantains	11	38	12	9
Ground Provisions	363	862	396	232
Corn	145	119	107	132
Peas	1	10	16	2
	552	1,084	604	399

Table XLI—Sales of Seeds and Planting Material

	1952 $	1953 $	1954 $	1955 $
Imported Seeds	20,770	19,159	21,921	26,958
Local Plants	11,207	1,578	2,627	6,953
	31,977	20,737	24,548	33,911

Table XLII—Sales of Fertilizers and Insecticides and Livestock Medicines

	1952	1953	1954	1955
Fertilizers (short tons)	43	148	305	419
Insecticides and Livestock Medicines	$1,979	$1,790	$3,381	$6,894

Table XLIII—Quantities of Livestock Feed Sold

	1953 Short Tons	1954 Short Tons	1955 Short Tons
Dairy Ration	420	527	593
Poultry Ration	800	773	609
Scratch Grain	338	560	636
Pig Ration	488	725	1,319
	2,046	2,585	3,157

Table XLIV—Business Turnover—Marketing Board

Year	Business Turnover $	Increase over previous Year's %
1950	611,202	—
1951	663,872	9
1952	702,472	6
1953	871,353	24
1954	1,126,443	29
1955	1,256,237	12

Table XLV—Revenue Figures—1955

Division	Amount $
St. Augustine Station	69,249 75
Botanic Station, Tobago	2,132 39
Central Experiment Station	155,270 44
District Services	48,005 41
Marper	18,298 88
Fisheries	45 88
Apiaries	402 10
St. Joseph Farm	132,824 07
Tobago Farm	24,894 47
Land Settlement	23,608 03
Rice	14,595 80
TOTAL	$489,327 22

GOVERNMENT PRINTING OFFICE, TRINIDAD, B.W.I.—1957

[Price 75c.]